2010

MARYLAND STATE HIGHWAY ADMINISTRATION

ANNUAL REPORT

2010

Annual Report

January 2011

Dear SHA Customers, Partners and Employees,

It is my pleasure to report that, while FY 2010 presented SHA with a number of challenges, our employees and partners rose to the occasion and were able to accomplish a great deal together. Extreme weather and financial conditions caused us to have to make major changes in the way we do business. I appreciate the contributions, innovations, and sacrifices that SHA's employees and our partners made to accomplish all that we did. The following pages show how SHA stayed true to its mission to "Efficiently provide mobility for our customers through a safe, well-maintained and attractive highway system that enhances Maryland's communities, economy and environment." Highlights include:

- SHA supported a drop in highway fatalities for the fourth straight year from 651 in 2006 to 550 in 2010.
- SHA kept the State highway system open during three record-breaking blizzards.
- SHA reached the state's goal to award 25 percent of SHA's contract dollars to minority and women-owned businesses (equal to $128 million).
- SHA was the major force behind Maryland's recognition as the first state to obligate federal American Recovery and Reinvestment Act (ARRA) funds for highway projects and to obligate the entire $431 million by the March 2010 deadline.
- SHA reduced the number of structurally deficient bridges for the fourth consecutive year, from 143 in 2006 to 107 in 2010.
- SHA provided travel-times on variable message signs on major interstates in the Baltimore-Washington region and made real-time traffic information more accessible to Internet customers, whose visits to our webpage increased by more than 70 percent.
- SHA improved safety for highway workers and motorists by using speed cameras to slow traffic and encourage more uniform speeds in work zones.
- SHA achieved nearly 100 percent compliance with erosion-and-sediment control regulations on road projects.
- SHA planted and/or funded 500,000 new trees.

Through proactive management, SHA met reduced budget targets for state funding and maximized federal funds. We introduced new efficiencies and minimized service cuts wherever possible. And we did all of this through the teamwork, innovative thinking and the hard work of SHA employees in every office throughout the state. It has been our pleasure to continue to serve the State of Maryland.

Sincerely,

Neil J Pedersen, SHA Administrator

A reference guide for some of the terms used on the following pages:

AAA - American Automobile Association

AASHTO - American Association of State Highway and Transportation Officials

ACEC - American Council of Engineering Companies

ACF - American Chestnut Foundation

ADA - Americans with Disabilities Act

A/E - Architectural and Engineering

A & G - Administrative and General, usually referring to expenditures

APS - Accessible Pedestrian Signal

ARRA - American Recovery and Reinvestment Act of 2009

CCMS - Customer Care Management System

Centerline Miles - The length of a road in miles measured along the center of the road

CHART - Coordinated Highways Action Response Team

CTP - Consolidated Transportation Program which is the MDOT six-year capital budget plan

CSFL - Choose Safety for Life

CVIEW - Commercial Vehicle Information Exchange Window

CY - Calendar Year, from January through December

DBE - Disadvantaged Business Enterprise

DMS - Dynamic Message Sign

DNR - Maryland Department of Natural Resources

DOT - Department of Transportation

EPA - Environmental Protection Agency

E & S - Erosion and Sediment, usually related to putting controls in place to limit soil erosion

FHWA - Federal Highway Administration

FMIS - Financial Management Information System

FY- Fiscal Year, from July through June

GIS - Geographic Information System

ICC - Intercounty Connector

ITS - Intelligent Transportation System

KPA - Key Performance Area

Lane-miles - The mileage from one end of a highway to the other multiplied by the number of lanes

LOS - Level of Service refers to the level of maintenance service that has been provided with 100% being the highest value; but can also refer to the level of traffic congestion on a road with "A" being the best

MBE - Minority Business Enterprise

MDE - Maryland Department of the Environment

MDOT - Maryland Department of Transportation

MdQI - Maryland Quality Initiative

MDTA - Maryland Transportation Authority

MHT - Maryland Historical Trust

MPT - Maryland Public Television

MVA - Motor Vehicle Administration

NEPA - National Environmental Policy Act

NHS - National Highway System

NTP - Notice To Proceed

PSA - Public Service Announcement

SHA - State Highway Administration

SHSP - Strategic Highway Safety Plan

SOC - Statewide Operations Center

SWM - Stormwater Management, usually associated with facilities or structures designed to control and/or filter water flow

TWIS - Truck Weigh and Inspection Station

VMT - Vehicle Miles Traveled (i.e., two vehicles traveling two miles equals four VMT)

WWB - Woodrow Wilson Bridge

Our Mission, Our Vision, Our Values and Our Goals

SHA's Mission

Efficiently provide mobility for our customers through a safe, well-maintained and attractive highway system that enhances Maryland's communities, economy and environment.

SHA's Vision

Providing our customers with a world-class highway system.

SHA's Values

SHA employees embrace values that complement our vision and mission. These are grouped into four categories:

We Value Excellence in Our People:

SHA employees are energetic, loyal, and supportive of one another. We encourage each other to reach our highest potential and are committed to gaining the skills, knowledge and training to achieve our goals.

We Value Excellence in Our Work:

As a team, we strive to know the needs of our internal and external customers. We fulfill commitments in a timely and accurate manner, using resources responsibly, and observing all legal, moral and ethical standards.

We Value Excellence in Our Relationships:

We value each other's opinions and ideas as well as those of our customers. We earn the respect and trust of our internal and external customers through fairness, honesty, integrity and open communication. We accept responsibility and are accountable for our performance.

We Value Excellence in Our Work Environment:

SHA provides a professional environment that is committed to putting the safety of its people and customers first. We strive to continually improve the workplace by rewarding accomplishments and encouraging employee involvement at all levels of the organization.

SHA's Goals

- Improve highway safety in Maryland
- Improve mobility for our customers
- Maintain a quality highway system
- Improve the effectiveness of managing our resources and projects
- Develop and maintain Maryland state highways in an environmentally responsible manner
- Provide services and products to our customers that meet or exceed their expectations

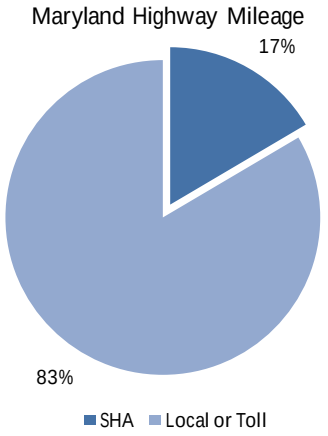
SHA stayed true to our mission to "Efficiently provide mobility for our customers through a safe, well-maintained and attractive highway system that enhances Maryland's communities, economy and environment."

Major Program Responsibilities

An excellent highway system is crucial to a strong economy, maintaining the quality of life of Maryland's citizens and keeping people safe as they travel.

SHA is one of the six agencies of the Maryland Department of Transportation (MDOT). SHA operates, maintains and constructs the state's highway system enabling mobility and access for people and goods from and through the State of Maryland. SHA owns and maintains the numbered, non-toll routes in Maryland's 23 counties that represent the backbone of Maryland's transportation system. This infrastructure forms the majority of the National Highway System (NHS)[1] in Maryland that connects local and county roads to major activity centers and other modes of transportation such as mass transit, the port, airports and railroads. Core SHA responsibilities include:

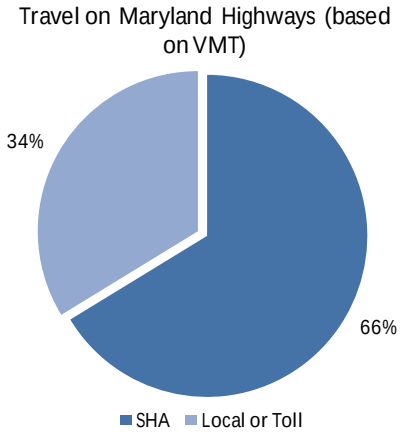
- *managing traffic safety programs designed to reduce fatalities, personal injuries and crashes on ALL roadways in the State of Maryland;*
- *responding to emergencies, including winter storm and other severe weather events, and to crashes and other incidents on the state highway system;*
- *managing Maryland's federal-aid highway program, including federal funding that is provided to local jurisdictions.*



SHA's highest priority is to improve highway safety on all roads in Maryland. Through implementation of the Strategic Highway Safety Plan (SHSP), SHA and its partners provide overall performance targets to guide progress towards that goal. The new SHSP effort has begun with five emphasis areas intentionally focusing on the more critical safety areas - such as impaired driving and aggressive driving/speeding - through the use of the three E's of traffic safety – Engineering, Education and Enforcement.

SHA roads carry 66 percent of the total traffic in the state,[2] or 37 billion vehicle miles of travel (VMT), with 85 percent of the freight carried on the state's highway system. For SHA, this translates to:

- owning and maintaining 5,100 centerline miles (17 percent of total miles in Maryland) or 17,000 lane miles (25 percent of total lane miles);
- owning and maintaining 2,600 bridges (50 percent of the total number of bridges in Maryland);
- providing access to other transportation facilities; e.g., transit, freight rail, Port of Baltimore and Baltimore/Washington International Thurgood Marshall Airport;
- working in collaboration with citizens, communities and elected officials to deliver high-quality projects; this includes the planning, design and construction of hundreds of projects from minor ones that improve accessibility to major ones such as the Intercounty Connector (ICC).



SHA also focuses on environmental compliance and stewardship as a key performance area (KPA) with initiatives including:

- dedicated programs that improve water quality within and along SHA facilities;
- environmental protection of natural resources during project construction;
- enhancement of the existing environment in addition to required environmental mitigation replacement for impacts;
- environmental stewardship training and awareness.

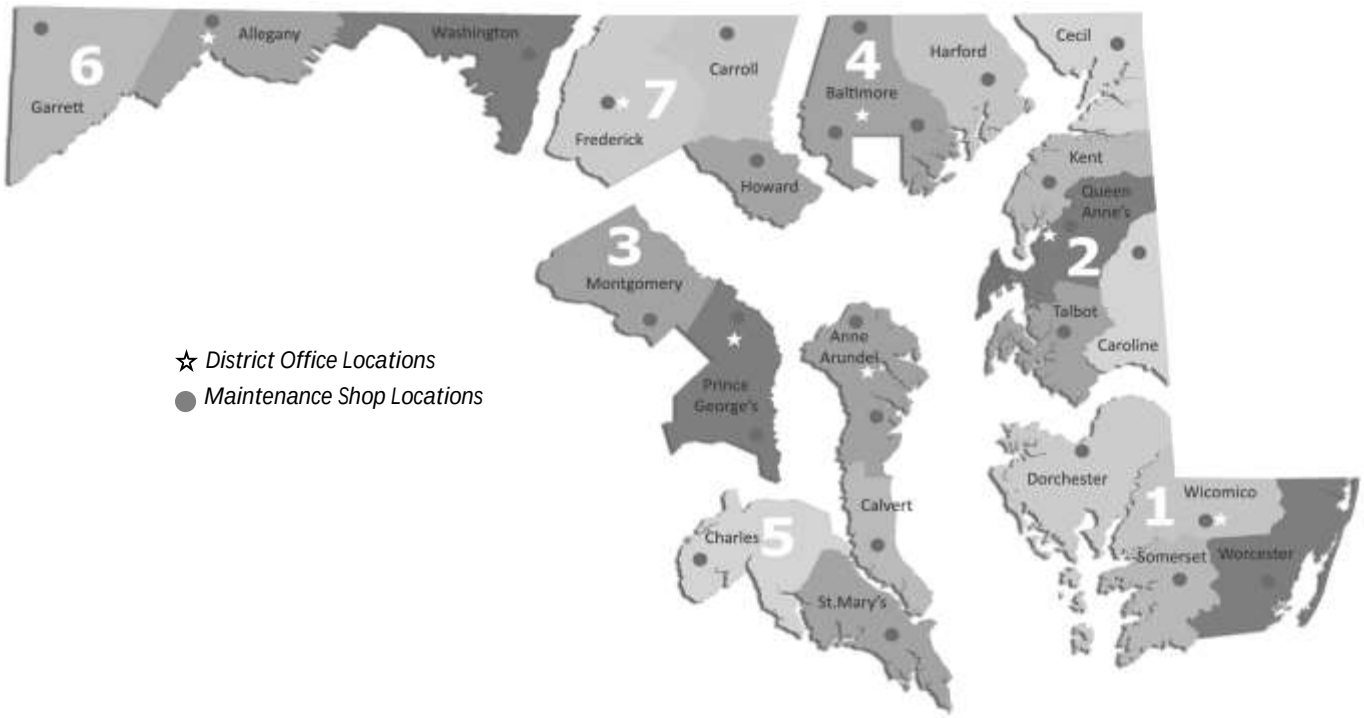
[1] The National Highway System is a federally designated category of roads important to the nation's economy, defense and mobility.

[2] Except specific facilities owned by MDTA and Interstate roads in Baltimore City.

District Offices and Shops

SHA has approximately 3,000 employees who carry out its mission, seven engineering districts and 28 maintenance shops around the state, with at least one maintenance facility in each county to improve communication with and support for local jurisdictions.

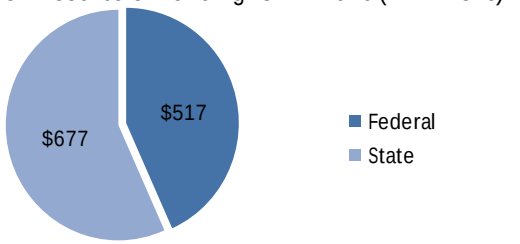
SHA's headquarters is in Baltimore City. There are 16 offices at headquarters that provide central administrative, planning and engineering functions. In addition, SHA's operations' offices and the Statewide Operations Center (SOC) are centrally located in Hanover near MDOT headquarters. District offices manage highway and bridge construction contracts, perform maintenance functions such as roadway and equipment repair, snow and ice removal and roadside maintenance and are responsible for traffic engineering projects and operations.



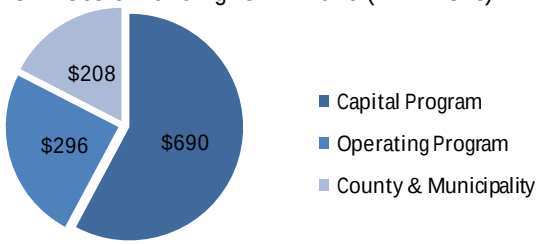
SHA Funding for FY 2010

Financing for SHA activities comes from Maryland's Transportation Trust Fund, federal highway funds, and in-kind contributions from private developers and local jurisdictions. SHA uses these funds for everything from planning improved roads and bridges to building, maintaining and operating existing roads. In FY 2010, SHA delivered a capital program of more than $690 million. The agency spent more than $296 million on operating programs, which included both the highway safety and the maintenance programs of SHA's 17,000 lane miles of roadway and distributed $208 million to counties and municipalities for use on local roads.

SHA Source of Funding for FY 2010 (in millions)



SHA Use of Funding for FY 2010 (in millions)



The Woodrow Wilson Bridge over the Potomac River was recognized with the 2009 National Steel Bridge Alliance Special Award, the 2009 Construction Management Association of America Project Achievement Award and the American Society of Civil Engineers (ASCE) Outstanding Projects and Leaders (OPAL) Award.

Excellence in Our People and Our Projects

SHA values excellence in our people, our work, our relationships and our work environment. We continually strive to improve our work and to achieve excellence in everything that we do. As a result, SHA as an agency, its teams, individual employees and projects were honored with more than 35 national, state and regional awards and recognitions in FY 2010. These awards are reflective of the quality work that SHA and our partners deliver for the citizens of Maryland. They are the efforts of SHA as a whole, which allow us to continue to perform and deliver at a high level.

Agency Recognition

– Federal Highway Administration (FHWA) Partners in Quality Award, FHWA DelMar Division/Maryland, honored SHA in recognition of SHA's successful implementation of the Recovery Act Program. FHWA noted in January 2010 that SHA put forth an extraordinary effort to identify roadblocks and develop strategies so that the ARRA projects could quickly be authorized. SHA used innovative methods for early project implementation and has continually monitored the program. As a result, Maryland was the first state in the nation to begin construction on an ARRA project and the first in the nation to obligate 50 percent of the funds.

Team Recognitions

Vernon Betkey, Chief MHSO, accepting GHSA award on behalf of the Maryland Task Force to Combat DUI.

NATIONAL GOVERNORS' HIGHWAY ASSOCIATION

– 2009 Peter K. O'Rourke Special Achievement Award to the Maryland Task Force to Combat Driving Under the Influence of Drugs and Alcohol, from the National Governors' Highway Safety Association (GHSA). These awards recognize notable achievements in the field of highway safety. The Maryland Task Force was established in 2007 by the Maryland General Assembly, with members from the Assembly, SHA and other state agencies, law enforcement, other organizations and the National Transportation Safety Board. Administrator Neil Pedersen chaired the Maryland Task Force, with lead assistance from the Maryland Highway Safety Office (MHSO). The Task Force submitted a comprehensive review of Maryland's impaired driving system. A final prioritization of the issues led to 42 recommendations for improvements to Governor O'Malley and the Maryland General Assembly in 2009.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

- 2009 AASHTO Presidents' Transportation Award for Environment to the SHA Environmental Compliance Division (ECD). This award recognizes a team which has performed exemplary service that benefits transportation. SHA created the ECD in 2006 to address a need in managing environmental compliance. This Division is responsible for ensuring that all SHA facilities and related operations achieve and maintain compliance with federal, state and local environmental permits, laws, regulations and best management practices. The Division implemented a comprehensive compliance management system that led to SHA nearing its goal of 100 percent compliance.
- 2010 AASHTO Standing Committee on Performance Management (SCOPM) Gold Award to the Environmental Programs Division Quality Assurance Team. This Team successfully implemented several important process changes to increase efficiency in resolving erosion and sediment (E&S) control issues with the Maryland Department of the Environment (MDE). They implemented training and certification programs to improve contractor and SHA construction staff performance in meeting regulatory requirements. As a result, in FY 2009 and FY 2010, SHA achieved 99.7 percent compliance toward its year business planning goal of 100 percent. The frequency and magnitude of non-compliance findings has steadily decreased, even with an increase in the number of inspections being performed. This was accomplished without increasing staffing or funding levels. Relationships with agency partners and the private-sector contractor community have been improved through increased program transparency and accountability.
- 2010 AASHTO SCOPM Silver Award to the Customer Care Management System (CCMS) Team. The Team's work has resulted in an improved version of SHA's customer contact tracking system with greater usage rates and increased user satisfaction. Using "cloud" computing technology, a software as a service development platform and a pilot six- to eight-week agile development cycle, the Team was able to rapidly respond to customer feedback. The enhanced system now delivers performance data to SHA managers for trend analysis, strategic planning and performance measurement. It has enhanced SHA's interactions with citizens through accountability and knowledge management, and by adding an online method of contact through which citizens can submit requests for service.
- 2010 AASHTO SCOPM Silver Award to the Office of Highway Development University Team. This Team developed a structured, in-house training program for new Office of Highway Development engineers and technicians. The primary goal is to teach new engineers and technicians the technical and project management skills necessary to perform their jobs efficiently and effectively. The Team sees direct benefits of the program daily because

Environmental Compliance Division is recognized: From left to right: Harold Bartlett (former Deputy Secretary of MDOT) Chris Kerlish (EA Engineering), Greg Keenan, Sonal Sanghavi, Michelle Armiger.

Environmental Programs Division Quality Assurance Team joined by SHA Deputy Administrators: From left to right: Todd Nichols, Steve Buckley, Doug Simmons, Robert Laber (RK&K), Cheryl Hill, Darryl English, Greg Welker, Walker Martin (RK&K), Tad Daniel (RK&K) and Don Hoey. Team Members Missing: Mary Barse, Jim Cubbage (RK&K), Jon Goldstein (RK&K), Sonal Sanghavi, Polly Solliday and Robert Snyder.

CCMS Team recognized by SHA Senior Managers: Cheryl Stambaugh. Missing: Temitayo Chestnut and David Ratajczak.

Office of Highway Development University Team joined by SHA Deputy Administrators: From left to right: Kirk McClelland, Doug Simmons, Erica Rigby, Cheryl Hill, Barry Kiedrowski, Lindsay Bobian, Patrick Zinkan, Christie Minami, Greg Welker, Catherine Agostino and Matt Harrell. Team Members Missing: Jeff Holdren, Puskar Kar and Jialin Tian.

the new training program is a grass roots curriculum. Many routine tasks and design elements that the newer engineers produce are results of the program and the materials they learned in the training classes. When the engineers are working well and producing high-quality projects on time and on budget, the program is effective in achieving SHA's business plan goals and objectives.

– 2010 AASHTO SCOPM Silver Award to the Voice Over Internet Protocol (VoIP) Team. In 2006, SHA embarked upon a pilot program to provide this VoIP technology to its telephone users and to provide cost savings to the taxpayers. The Team's goal was simple, aggressive and yet contained a multi-phased approach: a clear path for SHA's goal of return on investment had to be detailed before the statewide VoIP project began. An initial estimate of bypassing the toll charges provided a major basis for the return on investment. All telephone calls are now handled on a centralized managed system that routes calls around the state in order to bypass leased telephone service toll charges for both local and long distance. The change to statewide VoIP network connectivity was transparent to Private Branch Exchange users. Phase II VoIP users were able to take advantage of added directory services, simplified conferencing, call forwarding and a large visual information screen on their desktop phone.

VoIP Team recognized at SHA Senior Management meeting:
From left: Phil Lazarus and Russ Yurek.
Missing: Craig Fetzer.

– 2010 AASHTO SCOPM Bronze Award to the Dynamic Message Sign (DMS) Retrofit Team. The Team was formed to upgrade the existing DMS displays from antiquated flip disk technology to state-of-the-art light-emitting diode technology. The goal was to acquire the necessary funding and use it in the most cost-effective manner while improving the visibility, functionality and reliability of the DMS signs in the most heavily traveled Baltimore-Washington, DC metropolitan areas. The Team used existing sign structures instead of installing new structures; only the display itself was upgraded, allowing the team to upgrade twice as many signs with the funds provided. It produced a more legible sign message to the traveling public. The retrofit also cut down on maintenance and downtime issues by addressing persistent mechanical failures. This effort is related to SHA performance plan response and repair times.

DMS Retrofit Team joined by SHA Deputy Administrators:
From left to right: Russ Yurek, William Foreman, Doug Simmons, Michael Garber, Cheryl Hill, Willy Gayle, Paul Runion, Dave Rineholt, Greg Welker, Raymond Edwards, Patrick Crogan and Gary Hunt.
Team Members Missing: Harry Brookes, Terry Cain, Craig Fetzer, Alex Gish, Phil Lazarus, Vicki Silva-Brown, Ed Symenski and Kathleen Weber.

STATE EMPLOYEES RISK MANAGEMENT ADMINISTRATION

– 2010 State Employees Risk Management Administration Health and Safety Group Award of Excellence to the SHA District 6 Occupational Safety Working Group in May 2010. This award recognizes teams whose ongoing efforts have resulted in a positive change in safety behavior in the organization. The District 6 Group listened to employees, shared ideas about progressive programs in risk management and preventative safety, set goals and monitored progress. As a result, District 6 had a 55 percent decrease in workers compensation claims in 2009.

State Employees Risk Management Administration recognition:
From left to right: Jack Cooper (IWIF), Sam Hall, Courtney Moody (IWIF), Anthony Crawford and Delegate Nathaniel Oaks.

Individual Recognitions

- 2009 Women's Transportation Seminar (WTS) Baltimore Chapter Woman of the Year Award to Melinda Peters, Director of the ICC project, for her outstanding contributions to transportation and to the advancement of women and minorities in the transportation field.
- 2009 Public Broadcasting System (PBS) "Time Team America" cast member. Julie Schablitsky, Assistant Division Chief for Cultural Resources and Chief Archeologist, was part of a team of top ten archeologists in this new prime-time science and archeology television series in the summer of 2009. The archeologists were followed as they excavated historic sites across America. Dr. Schablitsky's work has been published in *Archeology* and other archeology and science publications.

From left: Janie Tiedeman (WTS), Neil Pedersen and Melinda Peters.

Project Recognitions

WOODROW WILSON BRIDGE (WWB)

Dr. Julie Schablitsky, SHA Archaeologist.

- 2009 National Steel Bridge Alliance's National Special Award to the WWB project, shared by SHA, Virginia Department of Transportation (VDOT), Potomac Crossing Consultants and several other firms involved in the project. The bridge was selected for a Special Award, which is given for projects of exceptional merit. These awards recognize outstanding steel bridge design. Winning projects were judged on innovation, aesthetics and design and engineering solutions. The new bridge, a 12-lane span across the Potomac River that serves 200,000 vehicles per day, eliminated one of the nation's worst traffic bottlenecks. At the same time, it is a visually stunning bridge that was built in a sensitive natural environment.
- 2009 Construction Management Association of America Project Achievement Award in the Program Management/Program Phase, Infrastructure category to SHA, shared by FHWA, VDOT, and District of Columbia DOT for the WWB. These awards recognize instances in which professional construction or program management has helped ensure the successful completion of a major project. The $2.5 billion project was expanded to allow 10 lanes of traffic, with a dedicated bicycle and pedestrian path that connects Alexandria, Virginia and Prince George's County, Maryland, and an additional two lanes available for future transit needs. This project was on time and on budget.
- American Society of Civil Engineers (ASCE) Outstanding Projects and Leaders (OPAL) Award plaque dedication ceremony in December 2009. A plaque was installed at the Maryland WWB bridge abutment along the WWB trail in recognition of the WWB project winning the 2008 ASCE OPAL Outstanding Civil Engineering Achievement Award, considered the 'Oscar' of civil engineering. Shirlene Cleveland and Robert Healy attended for SHA.

From left: Blaine Leonard (ASCE), Jalal Masumi (VDOT), Bob Healy and Bill Wade (FHWA).

Goats (vegetation management) near the Hampstead Bypass.

Hampstead Bypass: Houcksville Road looking north.

MD 30 HAMPSTEAD BYPASS

- 2010 American Road and Transportation Builders Association (ARTBA) Transportation Development Foundation's First Place Globe Award in the Road category to SHA, shared with Corman Construction and Whitney, Bailey, Cox & Magnani, for the Design-Build MD 30 Hampstead Bypass project. ARTBA Globe awards recognize transportation agencies that do an outstanding job in protecting or enhancing the natural environment. The MD 30 project was environmentally sensitive; the bypass crosses a bog turtle habitat, which is a state and federally listed threatened species. The project required extreme caution and monitoring to avoid impact to the bog turtle habitat. A barrier was designed and constructed to prevent the bog turtles from accessing the roadway. Within the hydrologic influence area of the bog turtle habitat, stormwater management (SWM) facilities were designed to further support the wetland habitat of the turtle. Sheep and goats are used as part of a vegetation management strategy to create and support the preferred cover for the turtles instead of using heavy mowing equipment.
- 2010 American Council of Engineering Companies/Maryland (ACEC/MD) Honor Award in the Transportation category to SHA, shared with Whitney, Bailey, Cox & Magnani for the Hampstead Bypass project. ACEC/MD awards recognize projects that demonstrate a high degree of innovation, value to engineering and the public, and economic, social and other achievements. This design-build project, SHA's first Competitive Sealed Proposal (Best Value), involved the relocation of a portion of MD 30 to a bypass north of the Town of Hampstead, thus freeing the downtown area from extensive congestion during morning and evening rush hours.
- 2010 America's Transportation Award in the Innovative Management, Medium Project category to the Hampstead Bypass project. These awards, hosted by AASHTO, U.S. Chamber of Commerce and the American Automobile Association (AAA), honor the best transportation projects in America. The environmentally sensitive project received approval only when several unique changes were made to create and support the preferred habitat of the bog turtle, including 40 goats and sheep as a conservation grazing tool, the use of which has attracted international attention. The project also diverted two-thirds of the traffic that formerly traveled through the town, relieving severe morning and evening traffic.

MD 924 (MAIN STREET) STREETSCAPE

- 2010 ACEC/MD Honor Award in the Special Projects category to SHA, shared with Johnson, Mirmiran & Thompson, for the MD 924 Design-Build Streetscape project. This streetscape project runs through the main street of Bel Air and had to be completed while maintaining town operations. Project personnel worked with the various stakeholders and completed the project on time and on budget.
- 2009 Regional DBIA Mid-Atlantic Region Design-Build Merit Award in the Transportation Project Under $25 Million category to Corman Construction and Johnson, Mirmiran and Thompson for the Design-Build MD 924 (Main Street) from MD 22 to Maulsby Avenue Streetscape project. Design-Build Institute of America (DBIA) awards recognize the most successful and innovative design-build projects.

MD 924 at Churchville Road.

OTHER PROJECTS

- 2010 ACEC/MD Outstanding Project Award in the Transportation category to SHA, shared with Whitman, Requardt & Associates, for the Grade Separation of MD 450 at CSXT Railroad project. This project involved the elimination of a grade crossing between CSXT's main north-south track in the Mid-Atlantic region and MD 450, which carries more than 35,000 vehicles daily. Work on the project had to minimize impacts to nearby parklands and wetlands, two nearby historic structures, a bridge over the Anacostia River, a local tributary and also required numerous utility relocations.
- 2010 ACEC/MD Honor Award in the Transportation category to SHA, shared with Wallace, Montgomery & Associates, for the MD 5 Branch Avenue Metro Access Phase I project. Construction on this project included improvements to MD 5 and I-95/I-495 Capital Beltway, and MD 5/Capital Beltway interchange ramps. Phase I work consisted of work on the MD 5, I-95/I-495 (Capital Beltway) interchange and surfacing and safety improvements, including construction of a flyover ramp, directional ramp, cloverleaf ramp, and a spur connection ramp. Construction of the directional ramp and flyover ramp included five bridges and four retaining walls. This project was completed seven months ahead of schedule.
- 2009 Maryland Asphalt Association Quality Pavements Awards to SHA projects in early 2010. These awards (nine this year) are given to SHA and to the contractor:
  - Primary Resurfacing category for three projects: MD 234, US 50 at Linkwood Road and US 15 Southbound;
  - Secondary Resurfacing category for two projects: MD 140 from Center Street to Malcolm in Westminster and MD 16 (Salt Marsh Road);

- Interstate Resurfacing category for two projects: I-81 Northbound from the Potomac River to Halfway Boulevard and for I-83;
- Reconstruction category for US Route 1 at Joppa Road;
- New Construction category for MD 30 Hampstead Bypass.

SHA Centennial Celebration

- 2009 Public Relations Society of America (PRSA) Bronze Anvil Award of Commendation for the "Moving Maryland Forward, A Century of Modern Road Building" documentary.
- 2009 AASHTO National Transportation Public Affairs Workshop (NTPAW) Skills Award to SHA for "Moving Maryland Forward, A Century of Modern Road Building." SHA's commemorative book of the 100-year history of Maryland's modern road system was both an historical account of the road system and was attractive and relevant to the general public.
- 2009 AASHTO NTPAW Skills Award to SHA for the Maryland Highway Centennial Celebration. Maryland used this celebration to raise public awareness of all aspects of transportation, including safety, customer service, economic contributions, transportation engineering careers and contributions of SHA employees.
- 2009 PRSA Maryland Chapter Best in Maryland Award of Excellence in the DVD category to SHA for the documentary "Moving Maryland Forward, A Century of Modern Road Building." The documentary explains the history of Maryland's highways and was presented on PBS primetime TV in 2008 and 2009.
- 2009 PRSA Maryland Chapter Best in Maryland Award of Excellence in the Special Purpose Publication category to SHA for the "Moving Maryland Forward, A Century of Modern Road Building" book.
- 2009 PRSA Maryland Chapter Best in Maryland Award of Excellence in the Special Events category to SHA for the Maryland Highway Centennial Celebration.

SHA implemented a program in 2004 to install median barriers on certain roads based on crash history (injury severity and multiple occurrences), speed limit, average traffic volume combined with median width and truck usage. This program is extremely effective for essentially eliminating head-on collisions, which can be especially serious.

Highway Safety

Goal: Improve highway safety in Maryland

Highlights of SHA's Accomplishments

- Motor vehicle fatalities declined for the fourth year in a row, from 651 fatalities in 2006 to 550 in 2009.
- Maryland's first work zone automated speed enforcement program was implemented to reduce unsafe speeds in work zones and improve safety for workers and drivers.
- Seat belt usage statewide continued to increase, up to 94.7 percent in 2010.
- SHA provided leadership and support for the Maryland Alcohol Safety Action Program (MASAP) Executive Committee, established by the Governor to develop a comprehensive impaired-driving program that would revise the way impaired drivers are tracked from arrest to adjudication to treatment.
- The *StreetSmart* pedestrian safety program was expanded to the Baltimore metropolitan region in coordination with the Baltimore Metropolitan Council.
- About 800 projects to enhance safety features on state highways were completed.

Highway Safety Results Overview

Over the past four years SHA led the multi-agency, multi-jurisdictional effort to implement a Strategic Highway Safety Plan (SHSP) aimed at reducing fatalities and injuries on all public roads in the state. This culminated over the past year in achieving the goal for reducing fatalities one year earlier than originally projected; fatalities were reduced to 550 in 2009 prior to the original target date of December 31, 2010.

Overall, Maryland's highway fatality and injury rates have declined steadily over the last 30 years. Maryland's fatality rate dropped to 0.99 in 2009 which is more than 13 percent lower than the national fatality rate of 1.13 for 2009, also an all-time low. The number of personal injuries in 2009 decreased to 47,330, down from 55,287 in 2005. As part of a good "3E" approach, educational and enforcement programs and engineering improvements all contributed to these reductions. These positive results are attributable, at least in part, to higher seat belt use; enhancements in highways and their operations; enhancements in vehicle safety design and equipment; programs promoting traffic safety public information and education; traffic law enforcement and adjudication; driver monitoring and control; commercial vehicle operations; spot roadway improvements; accessible pedestrian signals; median guardrails; roadway rumble strips and economic conditions.

Highway Safety Legislation

FY 2010 spanned the largest proactive safety agenda in a decade. Important legislation was passed in April 2009 that took effect in October 2009 to tighten driving under the influence (DUI) of alcohol and drugs laws. The laws:

–Subject a person to jail time for violating an alcohol restriction on a license;

–Eliminate the opportunity for an alcohol/drug driving offender to receive probation before judgment more than once within a ten-year period;

–Expand the ignition interlock program;

–Make the purchasing of alcohol for, or providing alcohol to, an underage person (with religious and within home exceptions) a criminal offense and increasing the penalties for offenders.

Other significant traffic safety legislation, effective October 2009:

–Strengthens the state's graduated licensing program, including a longer learner's permit phase and increased sanctions for traffic offenses by novice drivers;

–Requires a driver who accumulates multiple points to complete a driver improvement program;

–Authorizes the statewide use of speed cameras in school and work zones;

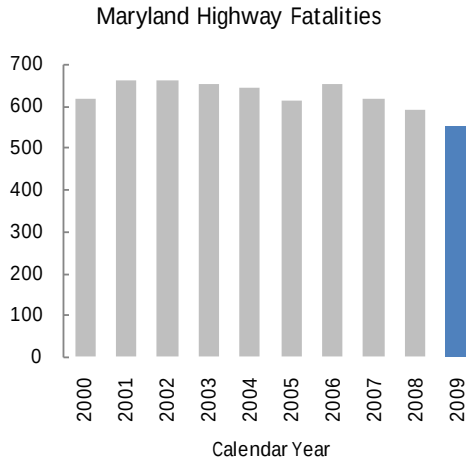
–Prohibits a driver from sending a text message while the vehicle is in motion or on the travel portion of the road.

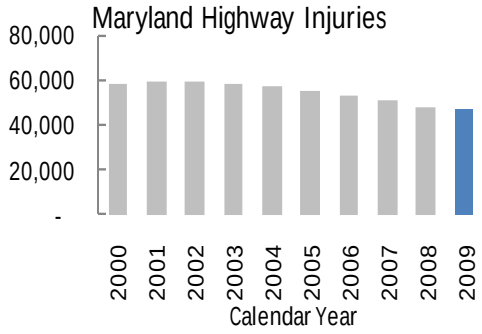
During the 2010 legislative session, additional legislation to enhance traffic safety was enacted to be effective in October 2010. This included bills that:

– Restrict cell phone use by a driver when the vehicle is in motion on a highway;

–Require drivers to give a three-foot clearance to bicyclists;

–Require drivers to move away from or slow for stopped emergency vehicles.





Choose Safety for Life Program

The *Choose Safety for Life (CSFL)* website (www.choosesafetyforlife.com) continued to be a portal to all safety programs. The *Be A Driving Force for Safety* and the *Drive Safely Work Week* initiatives were also promoted through viral marketing via emails and advertising on websites that included *The Baltimore Sun* and the *Carroll County Times* newspapers. The CSFL Facebook site continued to serve as a forum for safety discussions and share messages among a growing population of users. SHA partnered with other state, county and local agencies and organizations to promote safety education programs and enforcement efforts, such as *Smooth Operator*, *Work Zone Safety Awareness*, *Tipsy? Taxi!*, *DUI is for Losers* and other programs to educate and encourage drivers to make better decisions and behavior choices while driving.

Impaired Driving Prevention Safety

Maryland has been vigilant in communicating the risks of driving under the influence of drugs or alcohol.

–SHA, in partnership with AAA and Yellow Cab, continued the *Tipsy? Taxi!* effort in the Baltimore area, which provided 541 free cab rides to potentially impaired drivers for the St. Patrick's Day, July Fourth, Labor Day and New Year's Eve holidays. The campaign included web promotions, radio public service announcements (PSA) and enforcement efforts. More than 1,500 potentially drunk drivers have been removed from Baltimore area roadways since the program began.

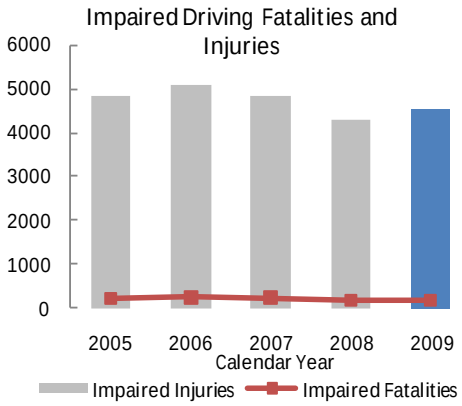
–Lt. Governor Brown announced sweeping changes to Maryland's DUI laws at a press conference in September 2009. More than one-fourth of the traffic fatalities in the previous year were committed by drivers under the influence of drugs and alcohol. The new DUI laws went into effect in October 2009.

–Lt. Governor Brown hosted the *Maryland Remembers* event in December 2009 to remember people killed in impaired-driving crashes and to reinforce efforts against drunk driving. SHA announced at the event that Governor O'Malley had signed an executive order establishing an Executive Committee to evaluate an impaired-driving program that would revise the way impaired drivers are tracked from arrest to adjudication to treatment.

–Maryland Impaired Driving Coalition launched a new social marketing campaign aimed at young people who are hard to reach by traditional media. The program called *DUI is 4 Losers* focused on the negative consequences for drivers operating a vehicle under the influence of alcohol or drugs.

–*Checkpoint Strikeforce* campaign, an annual education and enforcement campaign for zero tolerance against impaired driving, complemented the *DUI is 4 Losers* campaign. *Checkpoint Strikeforce* ran from August through December 2009 with increased DUI checkpoints and patrols combined with a public information media campaign and paid media component.

–More than 17,000 Christmas tree tags were distributed in CY 2009 to Christmas tree farms and vendors which reminded the public that Santa was watching! This was a low-cost year-end messaging tool about drinking and driving.



Distracted/Drowsy Driving Prevention Safety

In support of the new law banning texting while driving, SHA:

-Partnered with MVA to distribute 150,000 citation informational cards at MVA branches in the state;

-Supported *National Teens Don't Text and Drive Week* in November 2009, one month after the new law prohibiting texting while driving became law. SHA asked local high schools statewide to partner with us by reviewing two video clips, providing daily safety messages during the morning school announcements, distributing texting citation informational cards and encouraging students to avoid texting while driving;

-Mailed 36,000 citation information cards with tips sheets and video clips about the new texting law to every public library statewide.

SHA promoted *National Sleep Awareness Week* in March 2010 with a press release and displayed messages on highway signs that focused on the importance of sleep in reducing drowsy driving and being alert at all times. An email message was sent to hundreds of partners asking organizations to join SHA in promoting the message by forwarding the email to as many people as possible. SHA also provided several links to websites for the public to retrieve safety materials and other resource documents.

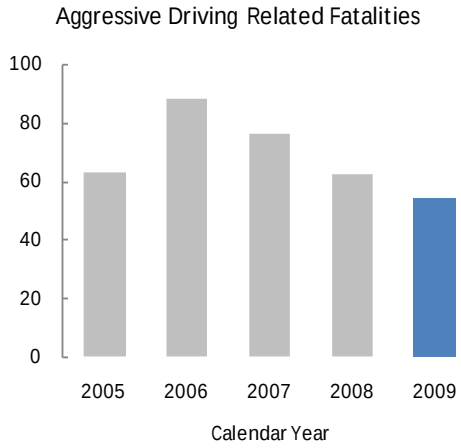
SHA, in conjunction with the Network of Employers for Traffic Safety, supported *Drive Safely Work Week* in October 2009, a campaign for the workplace designed to help employers emphasize the importance of driving safely on and off the job. SHA issued a press release, purchased web banners, retagged the CSFL website and added resources for the public and employers. The *Drive Safely Work Week* page was the most popular CSFL website page that year.

SHA supported and partnered with Oprah Winfrey to promote the first *National No Phone Zone Day* in April 2010. SHA used PSAs and overhead highway message signs urging drivers to put down cell phones and to keep both hands on the steering wheel.

Aggressive Driving/Speeding Prevention Safety

The annual Maryland *Smooth Operator* aggressive driving campaign kicked off in July 2009. More than 60 law enforcement executives attended the kickoff. During the 2009 campaign, 207,500 citations and warnings were issued by Maryland law enforcement. The media push throughout the campaign produced more than 4.5 million impressions. Total awareness of all *Smooth Operator* messages was 72 percent (up from 64 percent in the pre-survey).

Working closely with SHA, Baltimore County police continued their data-driven approaches to crime and traffic safety enforcement strategy by identifying areas of crime coupled with highway segments having a high incidence of crashes.



Using advanced crash/crime analysis, police identified hot spots in each of their patrol precincts and dedicated concentrated patrol resources to those areas. Aggressive-driving enforcement zone signs were erected along the hot spot locations in conjunction with the *Smooth Operator* program.

Median Barrier Upgrades and Rumble Strips

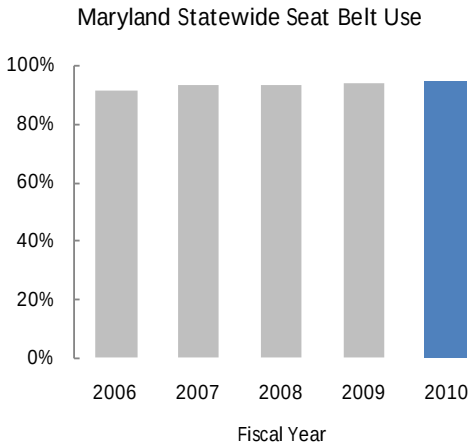
Crashes caused by vehicles leaving the travel lane can occur, from speeding drivers losing control to drowsy, intoxicated or distracted drivers veering off course. In general, "run-off-road" crashes account for almost one-third of the deaths and serious injuries each year on the nation's highways.

SHA implemented a program in 2004 to install median barriers on certain roads based on crash history and other factors. This program is extremely effective for essentially eliminating head-on collisions, which can be especially serious. The program also included upgrading barriers to current safety standards. Since the program's start, about 150 miles of traffic barriers have been installed. In FY 2010, three sizable guardrail projects totaling about $7 million were completed: four miles of guardrails along US 29 in Howard County and two segments of the National Freeway totaling almost 41 miles of guardrails. The National Freeway work was made possible by ARRA funding. In addition, studies are underway to evaluate replacing brown traffic barriers with more weather-resistant barriers.

SHA's program to install rumble strips along the shoulder near the travel lane and along centerlines is very effective for correcting drifting by inattentive drivers. This year, SHA installed shoulder rumble strips along a section of US 15 in southern Frederick County. About 2,464 miles of edge line rumble strips and about 412 miles of centerline rumble strips have been installed since 1997.

Occupant Protection Safety

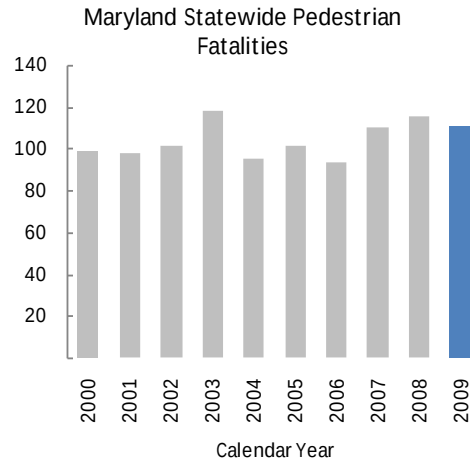
Maryland drivers continued to buckle up and use their seat belts, increasing occupant safety. The statewide seat belt use rate increased to an all-time high of 94.7 percent in 2010. Using a measure of 3.6 million licensed drivers, the increase in the seat belt use rate corresponds to approximately 25,000 more people buckling up in Maryland.



- SHA supported the annual *Click It or Ticket* campaign, aimed at increasing seat belt use by all drivers. Another wave of seat belt awareness (media and enforcement) was conducted in November 2009 with a particular emphasis on seat belt use at night.
- SHA supported the very successful *Buckle Up for a Buck* program in May 2010, which promoted seat belt usage. Safety advocates at the Largo MVA office distributed dollar bills to drivers of vehicles in which all occupants were buckled up; drivers of vehicles with unbuckled passengers received educational materials about the effectiveness of seat belt usage.

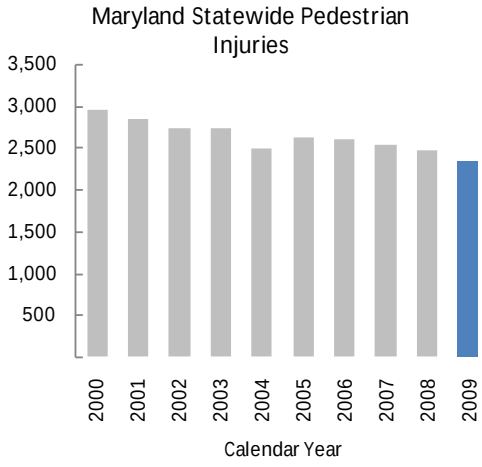
Pedestrian and Bicycle Safety

On a percentage basis, yearly pedestrian fatalities fluctuate even more than overall fatalities, making trends hard to identify. Over the past decade, annual pedestrian fatalities have ranged between approximately 95 and 120. Despite education, engineering and enforcement efforts, the state actually is no closer to the 2010 target of fewer than 85 pedestrian fatalities now than it was in 2006. Compared to a decade ago, pedestrians have been experiencing fewer reported injuries. The 2,340 pedestrians injured in CY 2009 were about 10 percent fewer than those injured in 1998. Achieving the target of fewer than 2,300 pedestrians injured per year by the end of CY 2010 is within reach.



SHA has the following engineering programs dedicated to improving pedestrian and bicycle safety on SHA roads. These programs are in addition to the construction and improvement of sidewalks that are discussed in the Mobility and Congestion Relief chapter of this report.

- Accessible pedestrian signals (APS) enhance safety for all pedestrians. They include visual, audible and tactile features that provide warnings for all people and meet the requirements of the Americans with Disabilities Act (ADA) of 1990. In FY 2010, 528 signal locations, or 35 percent of all identified locations, were APS-upgraded.
- About 95 percent of the locations identified for upgraded school zone/ pedestrian crossing signs have been replaced with a new sign in the preferred highly reflective green/yellow color.



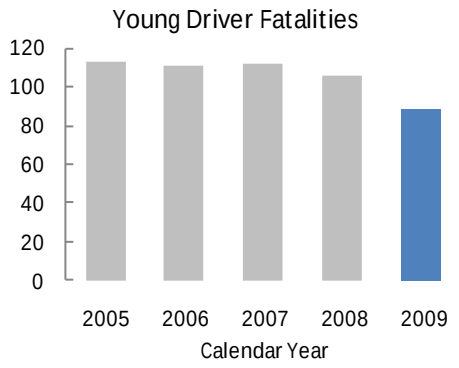
SHA provided enforcement and education programs to assist in pedestrian and bicycle safety.

- SHA targeted enforcement and education funds for areas with a history of high pedestrian injuries and fatalities, based on a review of 2007 crash data that looked at contributing factors and locations to determine the most effective course of action. SHA developed pedestrian focus areas in Prince George's County using available crash data, and conducted direct outreach in partnership with CASA of Maryland in Langley Park and WPGC radio in District Heights to support the broader *StreetSmart* regional pedestrian and bicycle safety program.
- The *StreetSmart* pedestrian safety program, developed for the Washington, DC, metropolitan region and supported by SHA, launched its 2010 campaign with a press event in Silver Spring in March. The program was expanded this year to include the Baltimore metropolitan region, in coordination with the Baltimore Metropolitan Council, under a grant from SHA. The inaugural program focused on the message "Cross like your life depends on it" for pedestrians, and focused on Baltimore City and Baltimore County areas.

- The *Vests for Visibility* program allowed parents and guardians of trick-or-treaters to borrow reflective safety vests free of charge during Halloween from selected SHA maintenance shops. The vests were placed over children's costumes to increase their visibility.
- SHA continued to manage the *Maryland Safe Routes* program, aimed at improving the safety of children who walk or bike to school. More than $10 million has been awarded statewide to local government and non-profit organizations since the program inception in 2007.

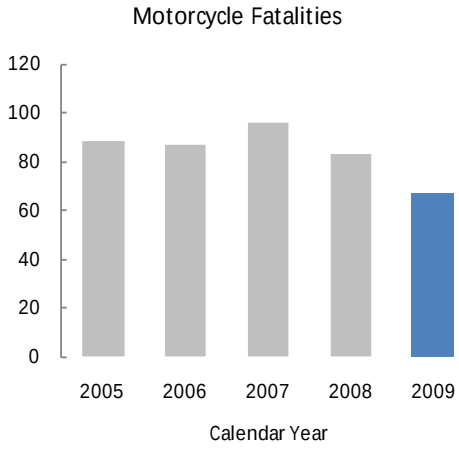
Young Driver Safety

- SHA, in partnership with MVA, developed an educational brochure for distribution which focused on parental involvement during teen learning-to-drive experiences.
- SHA, in partnership with Ford Motor Company and the Ford *Driving Skills for Life* program, hosted a hands-on training and education event in September 2009 for teen drivers.
- Teen safe-driving sessions were held during the *Teens In Action* driving safety program summer camp in 2010.
- The Baltimore County *Regional Traffic Safety* program, in partnership with Owings Mills High School, held a traffic safety week with a comprehensive young driver program.
- SHA participated in the *National Teen Driver Safety Week* in October. SHA county safety coordinators and advocates participated in educational activities and teen driver safety program initiatives.



Motorcycle Safety

- Motorcycle fatalities decreased in 2009 to the lowest levels since 2003, after steady increases over several prior years, dropping from 83 fatalities in 2008 to 67 in 2009.
- SHA partnered with the MVA, ABATE of Maryland (the largest association of motorcycle riders in the state) and other partners in *Motorcycle Safety Month* in May, placing motorcycle safety messages on roadway message signs, radio and television PSAs and motorcycle safety awareness banners at 10 MVA locations.
- SHA continued its grant support to MVA to promote increased rider awareness and training by participating in special events, including *Ride Across Maryland* in June 2010 and *Delmarva Bike Week* in September 2009 and enhancing motorcycle rider training curricula.



Motor Carrier Safety

- Participating law enforcement agencies conducted nearly 100,000 commercial vehicle safety inspections in FY 2010.
- SHA successfully deployed its first electronic virtual weigh station on MD 32 in Howard County. This weigh station has been effective in identifying weight violations and other safety issues in commercial vehicles. It also helps collect data that is used by law enforcement to help plan more effective weight and inspection efforts.

Virtual weigh station on MD 32.

Work Zone Safety

In October 2009, SHA, in partnership with the Maryland State Police (MSP) and MDTA, implemented the *Maryland SafeZones* program, an automated speed enforcement (ASE) program which uses automated speed cameras in work zones to assist in modifying driver behavior and help ensure safer work zones for workers, drivers and their passengers. Speed cameras rotate among work zones throughout the state on controlled-access roads with a speed limit of 45 miles per hour (mph) or more. The program began with two vehicles, fully equipped with the ASE system, deployed at four work zones in the Baltimore-Washington, DC metropolitan area. From October to mid-November 2009, more than 8,000 warning notices were issued to motorists who exceeded the posted speed limit in work zones by 12 or more mph. From the end of that warning period through June 2010, more than 50,000 citations were issued.

Other accomplishments included:

- SHA developed and presented an online safety course for law enforcement officers who serve on work zone details;
- SHA hosted the *National Work Zone Safety Awareness* press conference in April 2010, featuring SHA's work zone ASE program vehicle and remarks by the wife of Rick Moser, an SHA employee killed in a work zone in 2007;
- SHA trained nearly 2,000 traffic managers in safe work zone setups and trained nearly 400 flaggers in safe flagging techniques;
- SHA conducted two joint, multi-agency field inspections in cooperation with FHWA to promote uniformity in work zone inspections to ensure safe work zones.

Former Deputy Secretary Harold Bartlett speaks at the Maryland Safe Zones press event.

Roadway Engineering Safety Improvement Programs

In addition to programs mentioned throughout this chapter that address specific groups of roadway users, SHA continued to implement statewide roadway improvements and specific construction projects as needed.

- SHA's Road Safety Audit (RSA) program targets high-crash roads by evaluating sections of roads with the highest numbers of fatalities and injuries. The RSA team trained more than 170 people from various agencies (SHA, counties, cities, law enforcement, FHWA and Community Traffic Safety program coordinators). This year, 24 people completed training. RSA teams completed 10 audits. SHA worked closely with Montgomery County to implement its pedestrian RSA program and assisted the county in completing four pedestrian RSAs. SHA also started a RSA with heavy emphasis on pedestrian safety along US 40 East in Baltimore County. Eighty-one suggestions around the state have been implemented or are scheduled to be implemented.
- Identification of roads with a pattern of wet-surface crashes continues and SHA implemented improvements, either by improving the road surface or by providing signage. Since 2007, 103 sections were identified and improved. Each year, the total number of sections needing these improvements has decreased. In 2009, only nine sections of roadway needed these improvements.
- Roundabouts have proven to substantially lower the risk of collisions and are being used as an alternative to conventional intersections. Between 2006 and 2010, 24 roundabouts were opened statewide.

Specific roadway projects completed this past year to enhance safety included:

- MD 2/4 (Solomons Island Road); MD 524 to Walnut Creek Road, constructed southbound auxiliary lane for crash prevention;
- MD 27 (Manchester Road) at MD 140 ramps, constructed right turn lanes on the ramp for crash prevention (ARRA project);
- MD 65 (Sharpsburg Pike) at MD 63, geometric improvements for crash prevention (ARRA project);
- US 1 (Belair Road); from Connolly/Whitaker Mill Road to MD 147/US 1 Business, widened to provide left turn lanes and a center-turning lane;
- US 15 (Catoctin Mountain Highway) at MD 464, roundabout;
- US 29 (Columbia Pike) Northbound at Old Columbia Road, geometric improvements;
- I-68 (National Freeway) at Mountain Road, curve correction;
- I-70 (Eisenhower Memorial Highway), East of MD 56, constructed acceleration and deceleration lanes at existing median emergency crossover;
- MD 100 at I-97 interchange, revised traffic control to convert existing eastbound lane addition from southbound I-97 ramp to a yield condition.

The CHART incident management program continues to provide safety and economic benefits to motorists and commerce in Maryland. During FY 2010, CHART responded to and cleared more than 17,000 incidents and assisted more than 18,000 stranded motorists.

Mobility and Congestion Relief

Goal: Improve mobility for our customers

Highlights of SHA's Accomplishments

- Implemented real-time travel time information on overhead digital signs along major interstate highways in the Baltimore-Washington, DC region.
- Enhanced capabilities to relay real-time traffic information to the public on the Internet via increased availability of traffic camera images and a new Coordinated Highways Action Response Team (CHART) Web mobile application for viewing traffic information on smart phones and other mobile devices; these enhancements led to a more than 70 percent increase in web usage by our customers.
- Contract A of the ICC (seven miles between I-370 and MD 97) reached more than 75 percent of construction completed.
- 100 percent of all capital projects met ADA requirements at time of bid opening.
- CHART geographic information system (GIS) mapping application is now accessible to SHA's Highway Information Services Division, Maryland Emergency Management Agency (MEMA) and the GIS divisions of Frederick and Howard counties.

Overview

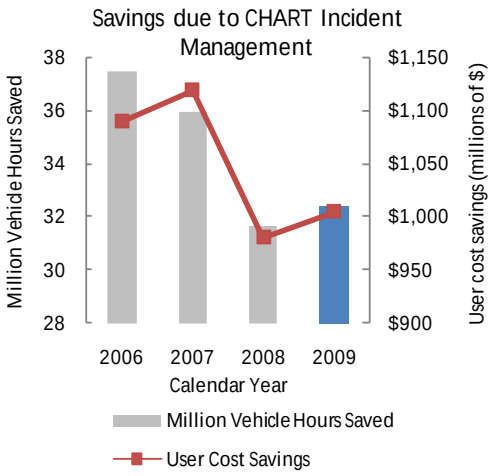
During CY 2009, the amount of travel on state highways decreased for the second year in a row. This was a relatively unusual occurrence that appeared to follow the continued economic slowdown of the year.

CHART Program – Incident Response and Driver Assistance

The CHART incident management program continues to provide safety and economic benefits to motorists and commerce in Maryland. During FY 2010, CHART responded to and cleared more than 17,000 incidents and assisted more than 18,000 stranded motorists. In addition, CHART deployed and integrated 30 new closed-circuit television (CCTV) cameras statewide, making a total of 140 cameras and 619 intelligent transportation system (ITS) devices deployed throughout the state. Camera video feed interoperability with other regional agencies allows for access to more than 300 additional camera sites in Maryland. Currently, there are 24 full-time and six part-time emergency traffic patrols in the Baltimore-Washington, DC metropolitan area as well as operations in Frederick.

CHART representatives continued making presentations on its traffic incident management program at more than nine regional fire department workshops. SHA hosted an I-95 Corridor Coalition incident management conference for multiple agencies, and hosted an I-95 Corridor Coalition-sponsored Quick Clearance workshop with the state police on March 18, 2010. Throughout the year, SHA and MDTA continued to work together to integrate their traffic management centers by region and to establish a unified command structure.

The CHART program yielded a reduction in delay of 32.43 million vehicle-hours, which corresponds to an annual user cost savings of $1.01 billion. This is an increase from last year's amount of $0.98 billion. Although the user cost savings reflects positive results for CHART during last year, cuts to the CHART operations program resulted in reduced services to motorists. During the evaluation period for 2009, the average incident duration increased by more than three minutes.



Winter Storm Traffic Management Response

Maryland's record-breaking winter weather from December 2009 through February 2010 greatly tested resources within all response agencies, including SHA's CHART responders.

- CHART responded to more than 400 incidents and provided more than 180 assists during December's snowstorm; this represents close to 20 percent of CHART responses for the month of December in a three-day period;
- CHART responded to more than 1,100 incidents and provided more than 500 assists during February's snowstorms; following a similar comparison as above, the seven-day response output from CHART represents a staggering 51 percent of the monthly responses for February.

Public use of the Internet to obtain information concerning incidents, weather closures and counties declaring snow emergencies set all-time records for utilization:

- CHART received more than three million website hits during the three-day December snowstorm;
- For the first time ever, CHART website hits exceeded two million in one day during the February snowstorm; for the two snowstorms, which spanned the week of February 5 to February 11, 2010, CHART received more than 10 million website hits. To put this in perspective, nearly two-thirds of the month's website hits occurred in a seven-day period.

CHART management contracted heavy-duty tow vehicles for incident management which allowed heavy vehicles to be removed quickly as they became trapped or disabled by snow, thus allowing the snow removal crews to operate seamlessly and keep up with the heavy amounts of snowfall. Remarkably, response times and clearance times at these scenes averaged 30 minutes or less.

Travel Time Displays on Major Highways

Maryland joined the ranks of only a few states that lead the nation in providing real-time travel time information to motorists on variable message signs (VMS) along major interstate highways. This program has been one of the most effective means to provide travelers with information that enables them to change routes or plan for delays. Ultimately, this helps reduce rush-hour congestion.

In January 2010, SHA launched a pilot program with six signs along I-95 in the Baltimore/Washington, DC region and then expanded the program in March 2010 to the Baltimore and Capital beltways and MD 295. The system uses travel time information from global positioning system (GPS) transport devices in company fleet vehicles that is available through the I-95 Corridor Coalition, of which Maryland is a leading member. Before leaving home, work or school, motorists can log onto www.roads.maryland.gov or go directly to http://www.traffic.md.gov/travinfo/dmsSigns.asp to get travel information.

Travel Time Information on the Internet

SHA enhanced capabilities to relay real-time traffic information to the public on the Internet via increased availability of traffic camera images, streaming camera video feeds, upgrading the speed of our data delivery over the Internet and a new CHART Web mobile application for viewing traffic information on smart phones and other mobile devices. This Internet access proved a valuable resource to travelers in Maryland during the February 2010 snowstorms: more than 16 million website hits were received in the month of February, out of 83 million website hits for FY 2010, a 70 percent increase in website usage by our customers. As noted above, information about travel time can be found on SHA's website www.roads.maryland.gov or directly at http://www.traffic.md.gov/TravInfo/trafficCams.asp.

The CHART website streaming video feeds have been enabled with new technology to stream 142 single camera feeds. This technology replaces the video tours CHART had previously been using.

This activity coincided with the CHART upgrade to a new website utilization tracking tool. In addition to tracking website hits, this tool tracks the number of 'page views' on the CHART website, which is a more reliable measurement for tracking website use.

Incident Response Coordination with Other Agencies

SHA's CHART system contains a GIS mapping feature that displays DMS, roadway weather stations, counties in snow emergency plans, traffic speed sensors, hauling restriction areas/routes, area-wide road conditions from Emergency Operations Reporting System (EORS) shop reports, and CHART's 142 CCTV camera streaming videos. CHART now provides secured access to MEMA and the GIS divisions of Frederick and Howard counties.

Through a new service called ArcGIS REST (Representational State Transfer), which allows simple, open web interface for first responders and partners familiar with the use of GIS, CHART has provided usernames and passwords for the agencies above as well as written documentation showing how their legacy GIS systems can connect to CHART and display information from CHART in their own systems, using their own Internet connections.

Moving Freight in Maryland

SHA roads carry 85 percent of the freight traffic in Maryland. Major accomplishments include:

- SHA partnered with Maryland Port Administration (MPA) and Baltimore City to provide a joint city/state hauling permit for oversized/overweight loads in and out of the Port. This streamlined permit process for Port customers, with same-day permit issuance by SHA on behalf of both jurisdictions, resulted in more than 9,200 joint applications processed in FY 2010, and almost $670,000 in fee collections for the City.
- SHA continued to collect a permit use fee on behalf of MDTA for permit loads traveling on their facilities. More than 36,400 permits were issued and more than $1,063,000 in revenues were collected for MDTA.
- SHA managed four separate mega-moves with nearly nine million pounds of nuclear power plant equipment safely transported in the state in FY 2010. The overweight, oversized equipment traveled at five miles per hour or less and required extensive coordination with other agencies.

A 2.55 million pound freight transfer in Maryland.

– SHA completed a $75 million project to separate a crossing at MD 450 (Annapolis Road) and the CSX railroad near the Peace Cross in Prince George's County. This project included new bridges at the road crossing and a crossing over a tributary to the Anacostia River, improvements to the surrounding intersections and elevation of the railroad for 1.2 miles. The completion of this project improved safety and mobility for the railroads and the automobile and truck drivers using MD 450.

Major Projects to Add Roadway Capacity

ICC

As of June 30, 2010, contracts to build 17.9 miles of the 18.8-mile ICC were underway, representing $1.5 billion of the total $2.5 billion project. Workers logged more than four million labor-hours constructing the road and associated amenities. As of June 30, 2010:

– Contract A, which comprises seven miles of the ICC between I-370 and MD 97, was more than 75 percent complete in June 2010. The Metro Access Road interchange ramps, the ICC mainline from the Metro Access Road interchange to east of Redland Road, and Needwood Road to Muncaster Mill Road as well as the MD 97 ramps are being paved.

– Contract B, which comprises seven miles of the ICC between MD 97 and US 29, was more than 40 percent complete and on schedule to open-to-traffic (OTT) in late 2011. Contract B has received the final Maryland Department of the Environment (MDE) permit and work is accelerating.

– Contract C, which comprises 3.8 miles of new highway, as well as 1.3 miles of US 29 road improvements and 1.9 miles of I-95 auxiliary lanes, is nearly 65 percent complete and on schedule to OTT in late 2011. Mainline paving between Old Columbia Pike and US 29 is complete.

Work continues on the US 29 interchange on the ICC.

Much of this project involves environmental enhancements that are described in the Environmental Stewardship and Compliance chapter of this report.

I-70 (Baltimore National Pike)/Walser Drive/MD 355/MD 475 in Frederick

This $107 million project enhanced access to the City of Frederick from I-70, a location where multiple state highways converge and sharp curves and short ramp entrances and exits were insufficient to handle the volume of through traffic. The new road system includes an urban diamond interchange, a MD 355 bridge over I-70 at MD 85, widening along MD 355 and an extension of MD 475 (East Street). Other project improvements included the construction of stormwater management (SWM) ponds and a pumping station along Monocacy Boulevard to improve water quality draining from the road.

Projects to Improve Safety and Enhance Community Mobility

US 1 (Belair Road) between Cottington Road and Joppa Road/India Avenue

This $1.8 million project in Baltimore County improved safety and traffic flow by relocating the signal for the Perry Hall Square Shopping Center to a location that provides a safer distance from the adjacent signal along US 1. The project also provided new ADA-compliant sidewalk and ramp accommodations, new turn lanes, traffic signal upgrades, landscaping, reconstruction of curb, gutter and driveways and a new roadway surface.

MD 7D (West Main Street) in Elkton in Cecil County

This $2 million project relieved congestion in the town of Elkton. It included the replacement and reconstruction of sidewalks, drainage improvements, new curbs and gutters, restored landscaping and a new roadway surface. The road is now being transferred to the City of Elkton.

Streetscape Projects on MD 147 (Harford Road) in Parkville and MD 7 (Philadelphia Road) in Rosedale, Baltimore County

These two large streetscape projects ($14.5 million and $15.6 million, respectively) improved traffic operations and safety and enhanced the appearance, connectivity and quality of life for the neighborhoods. Traffic capacity was increased by modifying roads, providing sidewalks, landscaping, streetscape amenities, bicycle improvements, new curbs and a new road surface.

Projects to Improve Traffic Operations

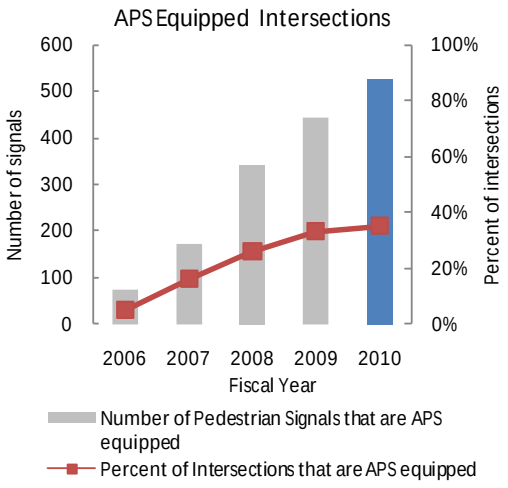
MD 32 (Sykesville Road) in Howard County

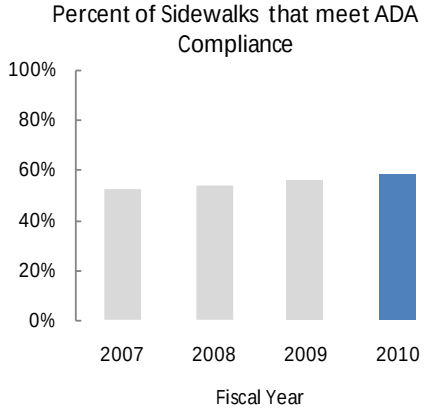
More than 32,000 vehicles travel this section of MD 32 each day and several fatal crashes raised concerns from travelers and residents in the area. To enhance safety and overall operations, SHA added new left-turn lanes at three intersections (Day Road, River Road and Amberwoods Way) on MD 32 just north of I-70 and a new continuous center left-turn lane from Emory Farm Lane to just south of River Road for approximately six-tenths of a mile.

MD 940 (Owings Mills Boulevard) at Dolfield Road

An intersection improvement project valued at $1.7 million was completed to improve safety and roadway drainage. It included widening two right turn lanes, creating a new SWM pond in the southeast quadrant of the intersection and providing new signs, pavement markings and lighting.

Bike Accommodations: US 13 northbound road bicycle path in Wicomico County.





Sidewalk/Pedestrian Improvements

A few projects successfully completed are:

- More than one-half mile of new sidewalk was installed along US 50 in Salisbury from Davis Street to East Main Street;
- Pedestrian safety improvements were made along MD 97 (Georgia Avenue) in Montgomery County from Tidewater Court to Queen Elizabeth/Prince Philip Drive;
- About a one-quarter mile of streetscape and safety improvements were completed on MD 650 (New Hampshire Avenue)/MD 193 (University Boulevard) in Langley Park/Takoma Park.

Bicycle Accommodations

SHA is in the process of completing a statewide inventory of shoulder widths, outside lane widths and trails or multi-use paths that will be mapped via GIS. In the meantime, improvements continue to be made:

- SHA continued to provide additional miles of bicycle compatible roadways. A total of 839 miles of bicycle access were improved through 2009 since the beginning of the program;
- The total number of centerline miles of state-owned highways with designated bike lanes increased to 71 miles in 2009, up from 47 miles in 2008.

Accessibility for People with Disabilities

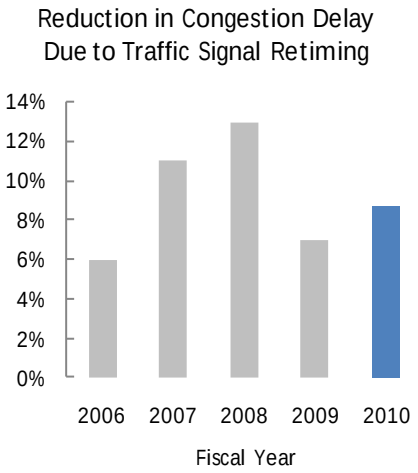
SHA continues its work to increase access for people with disabilities:

- 100 percent of all capital projects met ADA requirements at time of bid opening;
- 58 percent of sidewalks in the SHA sidewalk system are now ADA-compliant, up from 56 percent last year; thus SHA met the goal to increase ADA-compliant sidewalks by two percent annually;
- 35 percent of pedestrian signals are now APS-equipped, with 528 APS installations.

In December, the ADA Public Rights-of-Way Transition Plan was completed, distributed and posted to the SHA website. This ADA compliance document is a long-term scheduling document that helps translate ADA deficiencies identified in SHA's self-evaluation into improvements along sidewalks that are needed at specific road locations. Unlike other documents involving static lists with projected work dates, SHA uses its new technology-based decision-making tool, the ADA Portal, to provide a document that integrates with the project planning process, retrofit projects, funding, etc., and prioritizes work to be done based on federally mandated criteria and public input.

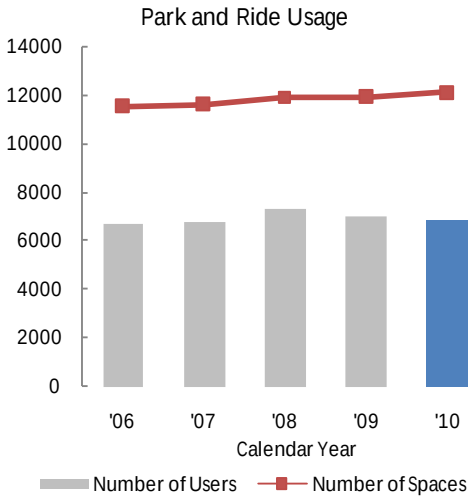
Changing Signal Timing to Minimize Delay at Intersections

SHA completed timing reviews of 386 signals, just 14 short of the annual goal of 400 signals. Timing modifications were made to 19 systems containing 195 signals. The benefits of SHA's retiming program have exceeded those of previous years. Timing changes are projected to have saved 1.1 million hours of delay in FY 2010, far exceeding the 741,000 hours in FY 2009. The projected delay reduction was 8.7 percent in FY 2010 compared to 7.0 percent in FY 2009. Fuel consumption was reduced by 31.5 million gallons in FY 2010, compared to 27.0 million gallons in FY 2009. The estimated total annual savings from signal optimization is $34 million. The greater benefits in FY 2010 are largely the result of which signals were retimed. Many large systems were reviewed, including US 301 in Waldorf, the Hagerstown Grid, MD 45 in Timonium, MD 26 in Eldersburg and US 301 in Upper Marlboro. These systems carry heavy volumes, providing opportunities for greater benefits.



Park and Ride Facilities

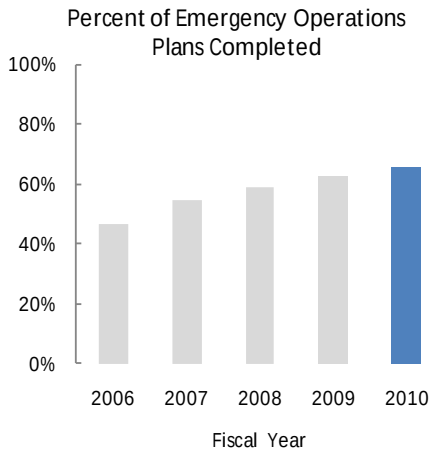
SHA's Park and Ride program helps to reduce congestion by encouraging car pooling, which further supports our commitment to environmental stewardship. In FY 2010, the reduction in VMT due to carpooling was 100 hours, slightly less than the 102 hours in FY 2009.



Homeland Security and Emergency Management

SHA continued to improve capabilities to plan for, respond to, and recover from both natural disasters and man-made incidents. SHA has been particularly successful in securing homeland security grant funding for a number of significant projects completed in FY 2010, including:

- Operational-level traffic evacuation management plans for Maryland's National Capital Region and Northeast Maryland;
- Funding to procure an emergency evacuation support trailer;
- Supporting the integration of Montgomery County traffic camera video into the CHART system;
- Development of an interoperable emergency communications system for Western Maryland;
- Installation of CHART workstations in local jurisdiction emergency operations centers on the Eastern Shore;
- Evacuation modeling and the installation of traffic detection equipment along evacuation routes in the National Capital Region.



SHA actively participated in 26 homeland security and emergency preparedness exercises. These included functional exercises related to radiological incident response, incident management, regional evacuations, mass transit incidents, debris management, winter storms, severe weather, hazardous material incidents, continuity of operations and interagency emergency notification drills.

SHA's continuing commitment to emergency preparedness was demonstrated by our ability to effectively respond to the severe winter coastal storms that occurred in December 2009 and February 2010. SHA also responded to major road emergencies:

- SHA maintenance and emergency crews assessed damage to Montrose Road near the I-270 overpass in Montgomery County when a tanker truck carrying several thousand gallons of fuel overturned on Montrose Road and caught fire on January 14, 2010. Montrose Road was closed for more than 12 hours and I-270 was closed for two hours, reopened, and then closed periodically. SHA road crews milled the affected section of the interchange approach roadway, paved nearly 200 feet, assessed the overpass bridge and then opened the road to full traffic.
- SHA deployed maintenance and emergency crews to assess a water main break that affected the outer loop of I-695 between south of Wilkens Avenue and the exit to I-695 on January 19, 2010. Major delays extended along the outer loop of I-695 between Wilkens Avenue and I-70 for approximately four miles. The 12-inch water main crossing underneath the Baltimore Beltway was identified as belonging to Baltimore City. The water main was repaired, crews repaired the roadway surface and the road was fully opened to traffic.

All of Maryland's 23 counties, except Queen Anne's County, had one or more resurfacing projects completed in FY 2010. About 887 lane miles were resurfaced, an increase of more than ten percent from the previous year. Of these 887miles, 640 were resurfaced using ARRA funds.

System Preservation and Maintenance

Goal: Maintain a quality highway system

Highlights of Accomplishments

- Statewide pavement ride quality has been maintained at or above the 84 percent SHA Business Plan goal level since 2007. Current statewide value is 87 percent acceptable.
- SHA reduced the number of structurally deficient bridges from 114 in April 2009 to 107 in April 2010, due to additional funding for projects.
- Careful management of maintenance activities during an extremely tight funding situation yielded an overall level of service for maintenance activities of nearly 86 percent acceptable for FY 2010.
- The level of service for mowing increased by more than 14 percent and expenditures were reduced in FY 2010 due to SHA successfully implementing a streamlined mowing policy.
- The level of service for litter removal increased by 7.2 percent in FY 2009 as compared to the previous year by more efficiently leveraging our resources.

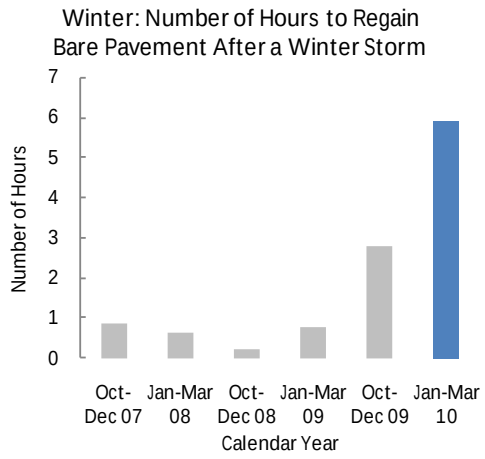
Responding to Winter Storms

The winter of 2009/2010 brought record snow of more than 80 inches in the Baltimore/Washington, DC, metropolitan area, and more in Western Maryland. The amount occurred during three snowstorms, including two back-to-back storms in February. Unlike Pennsylvania and Delaware, SHA was able to keep Maryland's state highway system open throughout all the storms, with only a limited number of highways having to be closed for individual incidents or localized conditions. As a result of these efforts, SHA was able to maintain critical public safety services and notably, no traffic fatalities occurred during any of these three storms. Accomplishments included:

– The efforts of SHA staff and contractors involved in battling the storms were nothing short of heroic. In the true spirit of SHA's "can do" approach toward emergencies and challenges, SHA's maintenance forces and contractors came through and kept our highway system open throughout the back-to-back storms and worked quickly to open up travel lanes so they could be passable again.

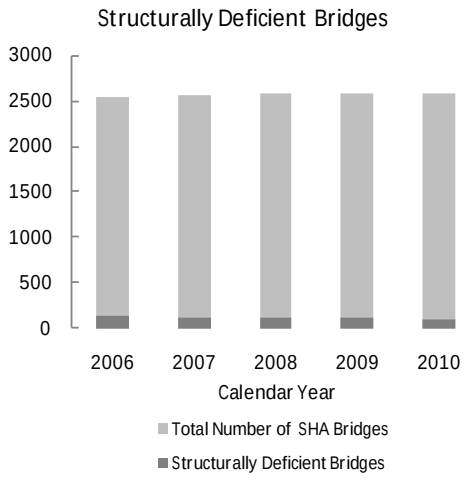
- SHA expanded its use of salt brine for the 2009/2010 winter season. Salt brine usage increased to 327,000 gallons this past winter, up from an average of 156,000 gallons of brine over the past five seasons. In post-storm reviews this past winter, maintenance districts across the state pointed to anti-icing and pre-wetting salt as one of their success stories during storms.
- SHA piloted an effort to increase the effectiveness of salt brine by blending it with an organic enhancer (de-sugared beet molasses), enabling brine to work at lower temperatures, and therefore remain on the pavement for a longer period. The blended product is less corrosive than salt brine. SHA tested and evaluated the product in Frederick and Howard counties. Several post-storm reviews indicated anti-icing and de-icing efforts using salt brine have the potential of saving one to two hours of mobilizing for a storm, as well as more efficient clean-up efforts after a storm. With appropriate equipment, technology and training, anti-icing efforts will continue to increase in the future. This represents a cultural change in the way SHA traditionally addresses winter storms. SHA should see cost savings using brine as we develop and retool the winter program.
- SHA hosted a review of its winter operations in 2010. Leaders in the field from Nevada and Illinois reviewed SHA's winter operations and were impressed with the level of service (LOS) that SHA provided. The U.S. DOT Research and Innovated Technology Administration, charged with advancing the deployment of crosscutting technologies to improve the nation's transportation system, sponsored the review. This peer-to-peer exchange provided information on the latest techniques and administration of winter operations throughout the country.

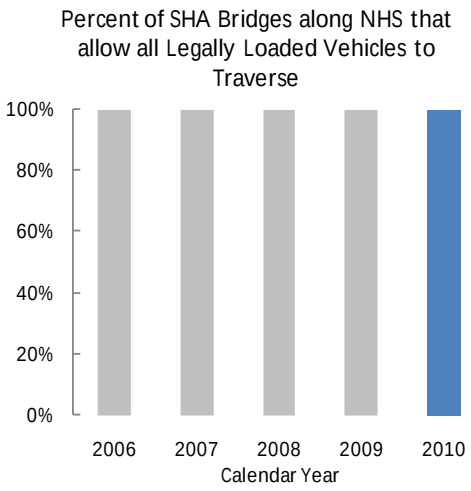
Snow plow clearing SHA road in Frederick County.



Bridges

SHA recognizes the importance of sustaining a continuous effort to maintain bridges and structures properly, and successfully secured additional funds for this purpose. As a result, SHA reduced the number of structurally deficient bridges for the fourth year in a row. The total decreased from 143 in 2006 to 107 in April 2010. This was achieved through a two-pronged effort. Additional funding was used to maintain construction contracts, utilizing 12 full-time construction teams that performed daily bridge maintenance. In addition, complete major rehabilitations and total structure replacements are occurring simultaneously at a faster rate than existing bridges are being identified as structurally deficient.





Below is a list of accomplishments:

- A map with information about SHA bridges was created and posted on www.roads.maryland.gov.
- SHA has no bridges on the NHS posted with weight restrictions and on the overall state system only 27 out of 2,600 bridges had such postings. In CY 2009, repairs or improvements were made or initiated to 91 SHA bridges on the NHS to help ensure safe travel.
- All bridges along the SHA highway network, including bridges identified as weight-restricted and structurally deficient, can safely carry all emergency vehicles, school buses and vehicles servicing the economy in the area.
- Repairs were made or initiated to 32 SHA bridges that were structurally deficient or weight restricted.
- Only four of the 4,096 small structures, such as retaining wall, culverts, noise walls, etc., have weight restrictions; 99.9 percent are unrestricted. None of the postings affect the movement of emergency vehicles, school buses or vehicles affecting the economy of the area. Repairs were made or initiated to 56 small structures to help ensure safe travel.
- There are only two priority historic bridges that have a main element rated less than "5" as to condition; one does not carry traffic and no remedial work is now scheduled on the Aluminum bridge (MD 32 over Patapsco River, CSX RR and River Road) that was taken out of service; the other is scheduled for major rehabilitation, with Advertisement in April 2010 (Concrete Arch bridge over Patapsco River on US 40 in Woodlawn). This represents a reduction from the three historic bridges reported last year. A suggested list of 69 bridges was sent to the Maryland Historical Trust (MHT) for their consideration.
- SHA is progressing toward full conversion of GISHydro from the old ArcView to the new ArcGIS platform. The conversion to ArcGIS assures use of fully integrated hydrology software that is the backbone of all hydrology studies in watersheds with drainage areas of one square mile or more.
- After more than 30 years of using compression seals at expansion joints, SHA switched to a new detail in July 2009, which moves water to the rear face of the abutment, away from the bridge bearings, where it previously led to deterioration of these elements. SHA believes this new detail will greatly reduce future maintenance efforts (bearing pad replacement, bearing replacement, cleaning and painting of beam ends).
- SHA awarded its last ARRA project, the $2 million replacement of a deck bridge on Forestville Road over the Capital Beltway in Prince George's County, in June 2010.

WWB bicycle/pedestrian path – photo courtesy of Jeff Katz/URS.

Woodrow Wilson Bridge (WWB)

The WWB project is complete. The operations, maintenance and inspection of the new bridge will be handled by a new and innovative process. Maryland and Virginia are jointly pursuing a turnkey asset management services contract that will essentially privatize these bridge functions, as well as many other routine services along the 7.5 mile long I-95/I-495 corridor in which the WWB is located. This contract will be for a term of five years with two, two-year options for renewal, for a potential total of nine years.

MD 362 bridge over Monie Creek.

ICC Project

All of the design work for the ICC bridges in all three contracts is complete. Design for a number of walls, sound barriers, drainage structures and other small structures is ongoing. Please refer to the Mobility and Congestion Relief chapter for more information on the ICC project or go to www.iccproject.com.

Special bridge projects completed:

- SHA replaced the MD 362 (Mt. Vernon Road) bridge over Monie Creek in Somerset County in five weeks instead of the usual 10 weeks. Work began on July 7, 2009 and the bridge was opened to traffic on August 14, 2009.
- MD 131 (Seminary Avenue) bridge over the tributary to Roland Run was totally replaced over four weekend closures, including casting concrete piling and installation of pre-cast, pre-stressed concrete slabs all completed in place. Traffic on this $1.4 million project was continuously maintained during all week days. Work started on July 7, 2009 and the bridge was finished on August 11, 2009.

Workers driving pile during construction of McDonogh Road bridge deck replacement.

Other bridge projects completed:

- MD 67 (Rohrersville Road) bridge deck overlay over Israel Creek in Washington County.
- MD 97 (Washington Road) bridge deck replacement over Morgan Run for $1.13 million in Carroll County.
- MD 109 (Old Hundred Road) bridge deck replacement over Little Bennett Creek for $1 million in Montgomery County.

- MD 180 (Jefferson Pike) small structure replacement and retaining walls over tributary of the Potomac River for $6.7 million in Frederick County.
- MD 234 (Budds Creek Road) bridge deck replacement over St. Clements Creek for $1.4 million in St. Mary's County.
- MD 335 (Hooper Island Road) bridge replacement over Wallace Creek in Dorchester County.
- McDonogh Road bridge deck replacement over Gwynns Falls in Baltimore County.
- I-83 Harrisburg Expressway bridge deck overlay over I-695 and MTA Light Rail for $1.4 million in Baltimore County.
- I-270 bridge replacement over Doctor Perry Road for $8.6 million in Frederick County.
- US 1 bridge deck replacement/widening over Sulphur Spring Road for $1.3 million in Baltimore County.
- US 29 southbound (Columbia Pike) bridge deck replacement over I-70 in Howard County for $1.14 million.
- US 1 (Belair Road) bridge replacement over Little Gunpowder Falls in Baltimore County for $4.8 million.
- About $12 million was spent to clean and paint bridges across the state.

Emergency bridge repairs

- In July 2009, SHA became concerned about the condition of some girders in the 85-foot suspended span of the bridge carrying MD 90 over Assawoman Bay in Worcester County. After evaluation, engineers restricted heavy loads on the bridge and began design and fabrication of replacement elements. The bridge was shut down to all traffic on October 14, 2009, to make the repairs and reopened to traffic on November 24, 2009.
- In September 2009, district forces found a 36-inch diameter pipe collapse under MD 273 near Rising Sun in Cecil County, which resulted in an emergency closure of the road. Replacement of the 80-foot long pipe was completed in two working nights, and the road was reopened to traffic.
- In October 2009, SHA bridge inspection crews found serious deterioration of some of the timber pilings on the bridge carrying southbound US 13 over Wagram Creek in Worcester County, which necessitated closing one lane of this two-lane road. Construction work began immediately to strengthen the timber piling by placing steel sleeves around them and the bridge was reopened to all traffic ten days later.

Preserving Pavement Condition

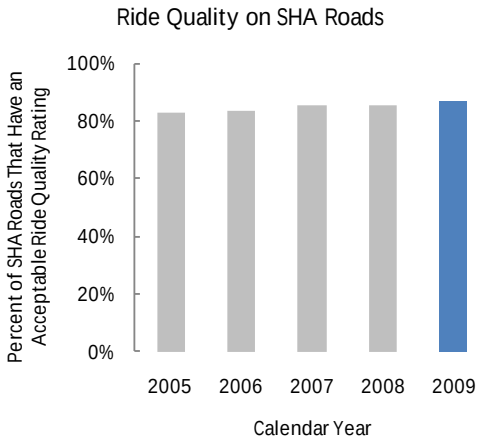
SHA's pavement assessment indicates that 87 percent of the pavements were in acceptable ride condition in CY 2009, up less than a percentage point from CY 2008. In addition, 94 percent of the roads on Maryland's National Highway System are in acceptable condition, the majority of which (88 percent) are SHA-owned.

This result is the cumulative effect of increased investment in pavement preservation, implementation of enhanced project selection tools and strategies, improved engineering and improved materials over the past several years. SHA resurfaced 887 lanes miles in FY 2010. This was 10 percent more than the previous year, in large part due to the influx of stimulus funding.

A significant accomplishment is the increase in pavement conditions in nearly all of the districts, meaning allocations were well distributed. SHA engineers continue to improve processes for the selection of projects and roadway treatments to facilitate the most cost-effective treatments available. SHA recently developed a pavement preservation decision tree to greatly expand the number of paving options that can be used, and to identify the appropriate circumstances under which they should be placed.

Nearly all of Maryland's counties had one or more resurfacing projects completed in FY 2010. Of the 887 miles, 640 were resurfaced using ARRA funds. Montgomery and Prince George's counties had the largest number of lane-miles resurfaced. All projects below, except I-270, were ARRA funded:

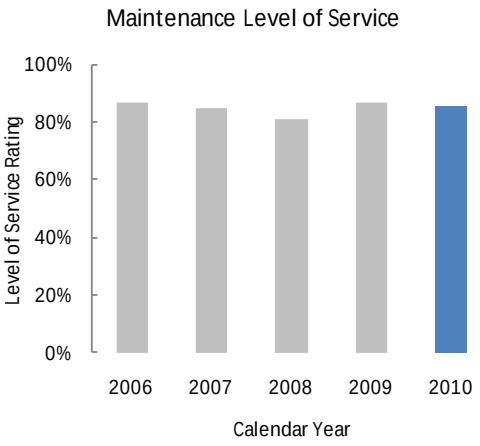
- Northbound US 13 (Salisbury Bypass) and MD 12 to Mt. Hermon Road, for $1.3 million in Wicomico County;
- MD 213 (Augustine Herman Highway) between the Chesapeake City Bridge and US 40 (Pulaski Highway) in Cecil County; approximately five miles along MD 213 were resurfaced, part of a $2.3 million area-wide contract. In order to minimize traffic interruptions to the 14,000 vehicles that usually travel along MD 213 near the Chesapeake City Bridge, construction took place at night from 7 p.m. to 6 a.m.;
- I-270 (Eisenhower Memorial Highway) between Middlebrook Road and Muddy Branch Road in Montgomery County; a nearly four-mile section of I-270 was resurfaced; other work included resurfacing the ramps at the MD 117 (West Diamond Avenue), MD 124 (Montgomery Village Avenue/ Quince Orchard Road) and Middlebrook Road interchanges; drainage improvements; upgraded existing sidewalks to ADA standards, pavement markings, curb and gutter replacement, replacement of guardrail and replacement of the concrete median barrier along I-270. This $6.7 million project began in May 2009; SHA expedited the project to two weekends of milling and paving in September 2009, which reduced long delays to motorists;



- MD 193 (Watkins Park Drive) from MD 214 to MD 202 for $1.1 million in Prince George's County;
- Three miles of I-83 (Baltimore-Harrisburg Expressway) between Downes Road and the Pennsylvania State Line in Baltimore County for $4.6 million;
- MD 450 (Defense Highway) from MD 424 to east of Huntwood Drive for $472,000 in Anne Arundel County;
- Westbound MD 144 (Western Pike) from I-68 to Corporate limits of Hancock, for $795,000 in Washington County;
- Southbound US 15 (Catoctin Mountain Highway) from Catoctin Hollow Road to MD 26, for $3 million in Frederick County.

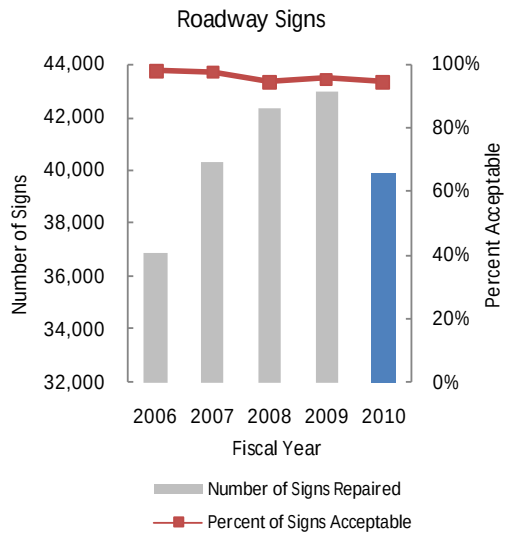
Maintenance Activities along the Roads

After a one-time rebound in CY 2009 following a six-year downward trend, SHA saw a slight drop in LOS for maintaining roads in CY 2010 to 85.8 percent. This was due to the impact of the record-breaking severe winter and consequent reduced spending of $11.8 million on business plan activities in an effort to offset the winter expenditures. Reductions in accomplishments were seen in most activities including line striping, pavement markings, guardrail, brush and tree cutting, ditch maintenance, inlets and debris removal. In addition, maintenance activities that have aesthetic value, such as mowing and litter, were reduced for cost containment and redirecting resources for maintenance of safety assets and environmental benefit.



Signs

In 2010, SHA achieved a 94.5 percent LOS for acceptable signs. This is a slight decrease from the prior year. This is due to repairing or replacing fewer signs in FY 2010 than in FY 2009 and the impact of cost-containment efforts necessary to offset winter expenditures.

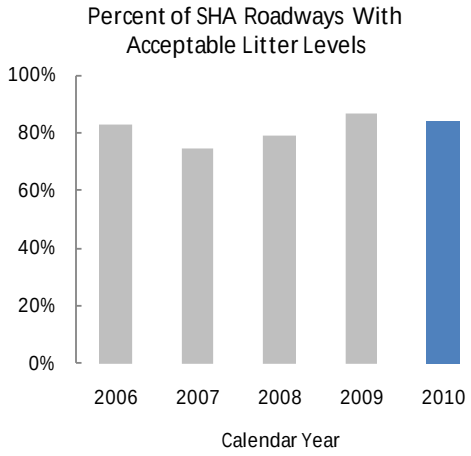


Pavement markings

SHA maintains markings on roads, such as stop bars at intersections and crosswalks. In 2010, the LOS for this activity decreased by 6.3 percent to 62.4 percent as a result of placing about half as many pavement markings in 2010 as was done in 2009. With funding limitations, it will remain a challenge to achieve the statewide target of 80 percent acceptable for pavement markings. SHA focused on school zones and areas with high pedestrian activity (e.g., crosswalk maintenance).

Litter removal

In 2010, the LOS for litter decreased by 2.4 percent to 84 percent. This was largely as a result of the extreme winter with fewer working days available for litter pick-up operations as well as statewide mowing program revisions. The above-noted anti-litter efforts are supplemented by two other programs. The Sponsor-A-Highway (SAH) program allows corporations to sponsor litter removal on one-mile segments of interstate highways and the Adopt-A-Highway (AAH) program allows volunteers to pick up litter along less-traveled highways. Both supplemental programs provide a small road sign placed in recognition of their efforts. The number of bags of litter removed by supplemental resources also decreased. SAH corporate sponsorship bags of litter removals increased by approximately 2,000 bags while AAH volunteer resources bags of litter removals decreased by approximately the same amount.

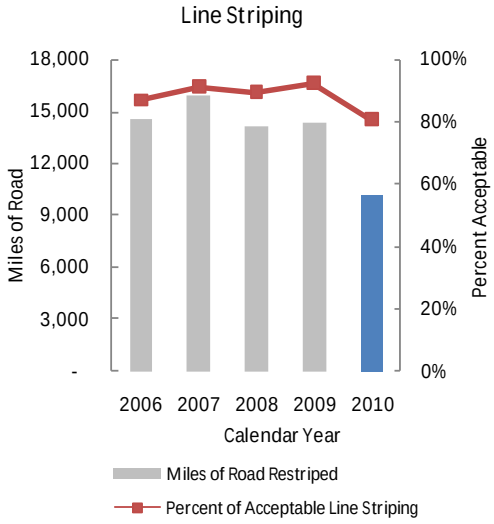


Brush and tree

In 2010, SHA achieved an 81 percent LOS for acceptable brush and tree cutting. This is a slight decrease from the prior year. This is due to trimming approximately 90 fewer miles of roadside in FY 2010 than in FY 2009. Changes in how brush and tree trimming operations are performed helped minimize the decline in LOS. Maintenance shops concentrated on safety issues, such as maintaining sight distance and eliminating sign obstructions, rather than tree canopy reductions.

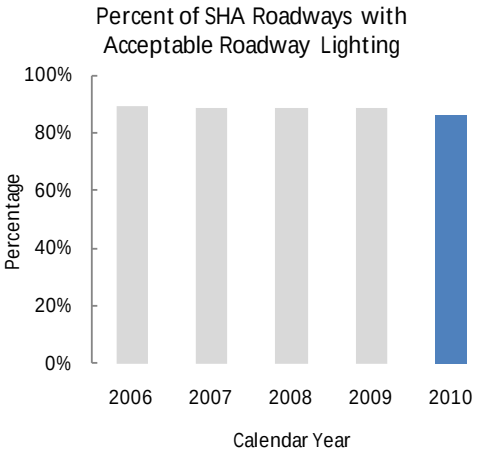
Line striping

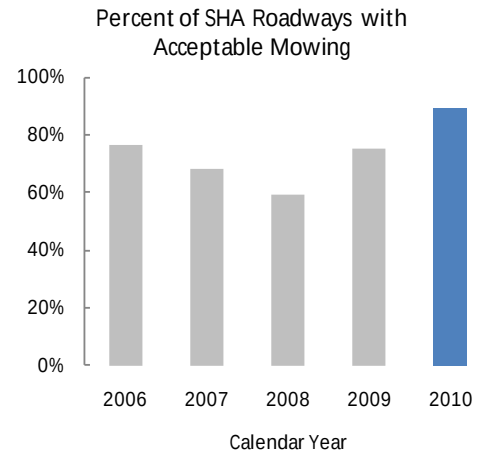
In 2010, the LOS for this activity decreased by 11.6 percent to 80.8 percent. This is due to striping approximately 4,000 fewer miles in FY 2010 compared to the prior year and the impact of the severe winter. In addition, line striping paint was not available from the supplier toward the latter part of the fiscal year and cost containment efforts prohibited widespread line striping operations until the start of FY 2011.



Highway lighting

The LOS for lighting decreased by 2.4 percent to 86.1 percent in 2010. The extreme winter exacerbated the freeze-thaw water infiltration cable damage. To stay within future budget constraints, drivers will begin to notice an increase in the number of lights not functioning and an increase in the number of lighting systems being removed completely in non-critical areas. These efforts will be supplemented by several limited capital projects if funding is available.





Mowing

Due entirely to statewide program revisions and corresponding changes in the evaluation criteria, the LOS for mowing increased by 14 percent to 89 percent in 2010. SHA mowed approximately 33,000 fewer acres in FY 2010 than the previous year and was able to redirect more than $3.5 million for maintenance of safety assets and environmental benefit. SHA will continue to reduce mowing acres in future years to make better use of resources and help with environmental sustainability efforts.

Responding to Emergencies

SHA responds to highway emergencies as part of its operations.

In FY 2010, SHA responded to a record-setting winter. While the first part of January was relatively quiet, things changed quickly as four back-to-back storms swept through Maryland over a 13-day period. From January 30 through February 11, snow fell in Maryland on nine of the 13 days. The first two minor storms dropped a combined average of 13 inches of snow across the state. The blizzard of February 5 - 6 dropped an average of 26 inches of snow while the blizzard on February 9 - 11 dropped an average of 17 inches of snow. Over the 13-day period, SHA shops fought an average of 54 inches of snow. The remainder of the winter season saw one minor storm in the metro area, Southern Maryland and the Eastern Shore. Storms, however, continued to affect Garrett County in Western Maryland. At the conclusion of the winter season, SHA shops had fought an average of ten storms totaling 86 inches of snow and returned pavement to a “bare” non-snow-covered condition within four hours, 75 percent of the time.

SHA continued to manage the financial aspects of the largest project in Maryland's history, the $2.56 billion ICC, including the ICC Financial Plan, weekly billing, financing efforts, and reporting to MDOT, MDTA and FHWA, all of which are contributing funds for the project.

Organizational Effectiveness

Goal: Improve the effectiveness of managing our resources and projects

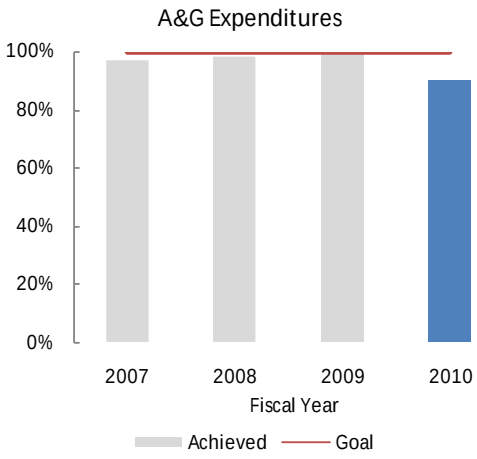
Highlights of SHA's Accomplishments

- Maryland was the first state to obligate federal ARRA funds for highway projects and obligated the entire $431 million prior to the March 2010 deadline.
- Awarded 25 percent of its contract dollars to Minority Business Enterprise (MBE) and Women (WBE) firms, which is $128 million for these companies.
- Paid 99 percent of all vendor invoices within 30 days;
- Reduced lost work days by 23 percent.
- Implemented measurable cost-saving process improvements in 25 offices/ districts, which helped to meet reduced budget requirements by saving approximately $8 million.
- Reduced annual instructor training costs by $51,500 for four core courses by developing and posting them online.

Financial Management

SHA continues to maintain sound oversight of fiscal resources in spite of the budget constraints and the record-breaking winter snow season. The agency has performance measures for managing the capital and operating budgets. The capital program goal is to remain within 10 percent of the final Consolidated Transportation Program (CTP) target for the budget year and the operating budget goal is to remain at or under one percent of the annual amended appropriation. The percentage of capital expenditures for FY 2010 was 88.5 percent, based on expenditures of $684.1 million compared to the first quarter CTP submission of $773.1 million. The goal was not met primarily as a result of the contractor community delaying cash flows in the spring of 2010. These unspent funds will be rolled into FY 2011. The operating budget for FY 2010 was $299 million. Overall, SHA's operating expenditures were 99.02% of budget as amended. Major reductions were made to the budget at the beginning of the fiscal year and at the end of winter, but SHA managed to keep expenditures within the reduced budget. In addition, SHA substantially reduced administrative and general (A&G) expenditures in order to contain overall costs.

Extreme weather conditions occurred in Maryland in FY 2010, including extraordinary snowstorms in December and February. SHA cleanup efforts resulted in large expenditures to plow streets and open roadways. An MDOT task force worked with the Federal Emergency Management Agency and MEMA to quickly assess and properly document reimbursable costs. As a result, MDOT received about $6.7 million in federal reimbursements for the December storm and about $14 million in reimbursements for the February storm to offset some of SHA's costs.



ARRA Funding

Maryland was the first in the nation to obligate ARRA funds, for a project on MD 650, two weeks after President Obama signed ARRA into law in 2009. SHA was able to react quickly to the requirements of the ARRA program and obligated 50 percent of the funds within 120 days of being apportioned; it also obligated 100 percent of the ARRA funds well before the one-year deadline. Meeting these critical deadlines as early as possible not only ensured that funding opportunities were not lost, but also that projects would be ready and under construction as soon as possible. A total of approximately $416 million in federal ARRA funds were obligated by SHA and are expected to support more than 3,500 jobs statewide. The ARRA funding was used primarily to preserve highways and bridges through shovel-ready resurfacing projects, bridge rehabilitation projects, traffic-safety projects and projects that are rebuilding sidewalks to ADA standards. It should be noted that MDOT received a total of $433 million in ARRA highway funds, of which $17 million were transferred for transit-related projects.

ICC Financial Management

SHA continued to manage the financial aspects of the largest project in Maryland's history, the $2.56 billion ICC, including the ICC Financial Plan, weekly billing, financing efforts, and reporting to MDOT, MDTA and FHWA, all of which are contributing funds for the project.

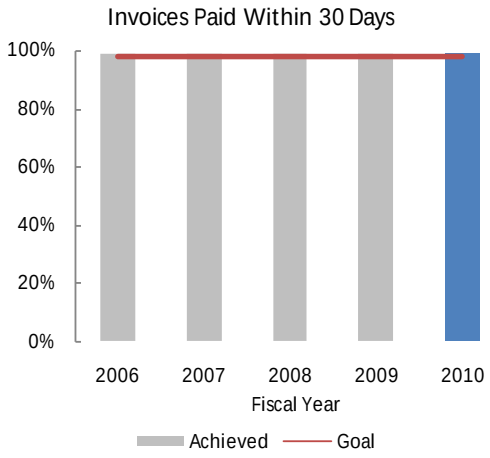
Invoice Payments

SHA paid 99 percent of vendor invoices within 30 days of receipt, exceeding its goal of paying 98 percent of vendors within 30 days. SHA has met or exceeded this goal since FY 2004.

Financial Technology Upgrades

SHA upgraded several systems to improve business efficiencies and comply with legislative mandates in FY 2010.

- The Highway User Revenue System required substantial system changes to distribute revenue collections based on the calculation that was modified during the 2010 legislative session;
- A new graphical user interface was introduced for the Financial Management Information System (FMIS) module that enables users to more efficiently enter data associated with state and federal reporting requirements;
- Changes to the Bradley Inventory System have resulted in more accurate and timely recording and reporting of inventory transactions;
- *CiteWeb III* is a new system used by SHA for the financial oversight of transactions relating to the speed camera legislation enacted in school and safety work zones.

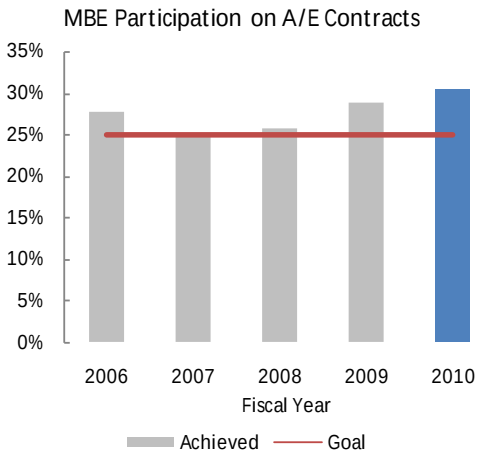


Minority/Disadvantaged Business Enterprise and Small Business Reserve Programs

SHA aims to ensure that it maintains its commitment to provide contracting information and opportunities to Maryland's diverse populations, including MBE firms, disadvantaged business enterprise (DBE) firms, WBE firms and Small Business Reserve (SBR) firms. SHA conducts outreach events to these and other firms, on-the-job training (OJT) programs and business assistance.

Minority/Disadvantaged Business Enterprise Awards

SHA conducts one of the largest volumes of procurements among Maryland's state agencies, and is very focused on supporting the statewide goal of awarding 25 percent of its contract dollars to minority and disadvantaged business (M/DBE) firms. SHA has always awarded close to 20 percent of its contracts to these firms, but succeeded in reaching the 25 percent goal in FY 2010. This percentage represents $128 million for these firms. One factor that contributed to this success was that several minority firms were awarded contracts as prime contractors, including one for $10 million. SHA also has an internal procurement review group that proactively establishes goals for contracts that provide high but reasonable MBE goals. In addition, SHA aims to sustain this success by monitoring the rate at which work is assigned to M/DBE firms throughout the life of contracts and by structuring contracts to provide types of work and smaller scopes so that M/DBE firms can bid on them more easily.



MBE Participation on Architectural and Engineering Contracts

SHA procured 28 architectural and engineering (A/E) contracts for $123 million. Of these contracts, MBE/WBE firms received a total of $37.4 million or 30.4 percent of the total contract awards; of those totals, $8.3 million or 6.7 percent were awarded to MBE/WBE firms as prime consultants. SHA has met or exceeded this 25 percent goal in A/E contracts since FY 2005.

Small Business Reserve (SBR)

SHA attained 10.7 percent in SBR expenditures, exceeding the state-mandated 10 percent goal. This was done in spite of major reductions to state-funded maintenance programs, from which many SBR contracts are awarded. Overall, SHA paid more than $19.6 million to SBR companies. With the exception of FY 2009, SHA has met or exceeded the ten percent goal since the program's inception in October 2004.

Compliance Reviews

SHA conducts a compliance monitoring program to ensure that contracts are in compliance with state and federal regulations, including non-discrimination in the award and implementation of the contract. SHA conducted 24 state MBE contract compliance reviews in FY 2010 and 65 federal DBE compliance reviews from October 2009 to June 2009.

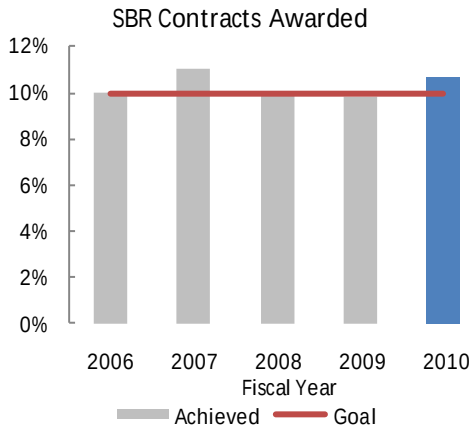
Outreach Participation and Business Assistance

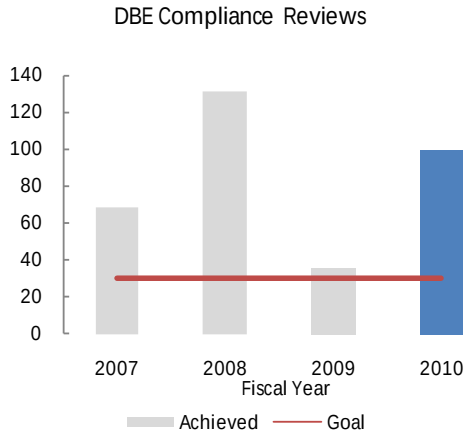
SHA participates in outreach events aimed at assisting M/DBE, SBR and other firms in doing business with SHA, although budget constraints have affected recent agency attendance. Some events included: Black Congressional Caucus Outreach, Government Procurement Fair, Alliance Baltimore Small Business Outreach, SHA Compliance Training/Networking, DBE to DBE Mixer, and Prime Contractor Information for Maryland Business Assistance Resource Center (part of the twin-state Business Opportunity Workforce Development Center project). SHA also assists prospective M/DBE firms to become MBE-certified in Maryland.

The ICC Project

Civil rights accomplishments used to manage the ICC in FY 2010 include:

- OJT program, which provides training opportunities for numerous individuals in construction, had 114 active and/or graduated trainees working on the three ICC mainline contracts; the program goal is 135 graduated trainees;
- Attended 50 outreach events and conducted four business development events;
- Conducted 15 DBE commercial useful function compliance reviews and 10 contractor compliance reviews;
- Seven DBE firms new to SHA began work on the ICC project.





Procurement and Contract Management

Board of Public Works

SHA presented 133 items to the Board of Public Works, all of which were approved. SHA had the most submissions to the Board of all of MDOT in FY 2010. This included contracts for A/E, maintenance facilities, construction, construction-related services and numerous real property conveyances and road transfers. One of the contracts awarded was for speed camera enforcement in work zones.

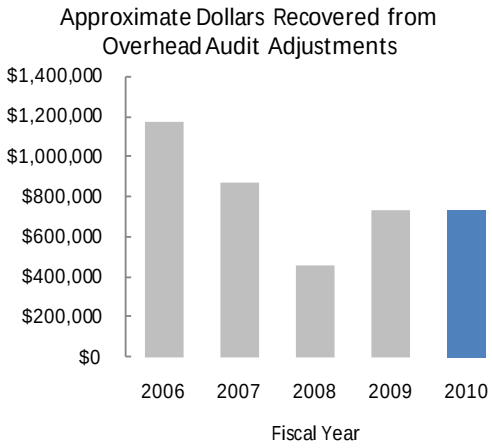
Contract Debriefings

SHA conducted 88 debriefings in FY 2010. This part of the procurement process involves successful debriefings with firms related to reasons why the firms were not selected for contracts. They are important since they resolve issues and reduce possible delays to the procurement process and/or contract award.

Contract Oversight

SHA provides continuous oversight of A/E consultant contracts to ensure that costs are reasonable and consultants are complying with all applicable laws and regulations. FY 2010 accomplishments include:

- Recovered approximately $727,757 from consultants for overhead audit adjustments; SHA has recovered approximately $5,327,000 since FY 2004;
- Completed 30 A/E contract compliance audits and identified $228,000 in overcharges; at the same time, SHA found weaknesses in management control over some aspects of contract administration and implemented a number of recommendations to correct these weaknesses;
- Audited 16 ARRA projects consisting of three locally administered projects and 13 state projects;
- Developed an A/E contract invoice verification checklist that will be required to be completed by all invoice verifiers and approvers prior to payment of a consultant invoice.



Sole Source Procurement

SHA implemented a sole source procurement process in August 2009 for non-emergency sole source procurements with an anticipated value of greater than $50,000; this process provides greater oversight for the agency. Prior to entering into negotiations with a vendor for a sole source procurement, offices are now required to present justification to an SHA panel to determine if the proposed procurement meets the requirements of a sole source.

Procurement Oversight

SHA conducts procurement and credit card audits of its maintenance shops to determine compliance with the 12 most frequently cited small procurement regulations. Performance on these audits allows SHA to track compliance, discuss findings and identify training needs to ensure compliance. Audits of all 28 shops were completed in FY 2010 with varying compliance results – overall, the average rate of compliance was 87 percent. The average rate of compliance for the four shops audited in the second round of audits improved significantly, from 58 percent in the first audit to 90 percent in the second. Part of this success may be due to a process that SHA implemented that requires those shops that had low compliance ratings to develop an action plan to ensure corrective action is taken and that shops reach a higher compliance rate during subsequent audits. In addition, SHA audit, finance, and procurement personnel meet quarterly to identify at-risk areas with procurement concerns.

Procurement Training

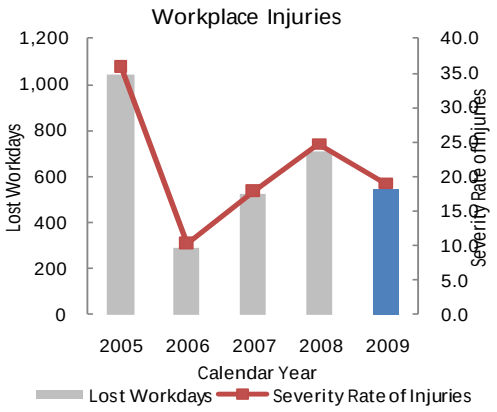
Procurement training is important for employees. SHA provided frequent training for its procurement personnel; one-day basic procurement training for 96 employees, two-day small procurement training and certification for 29 employees and small procurement oversight/FMIS oversight training for 222 FMIS approvers to strengthen and improve data integrity of FMIS reporting. In addition, A/E procurement process training was provided to an entire office.

Employee Safety

Workplace Safety

SHA strives to keep its employees safe and healthy and promotes safety in all aspects of work; in fact, 91 percent of managers and 81 percent of staff reported in the 2010 employee survey that management in their offices and districts are genuinely concerned about safety in the workplace. The SHA Safety Management Team continues to provide resources to promote a safe work environment for all employees, customers and stakeholders by developing workplace and injury prevention procedures, training programs and partnering with other SHA divisions, local affiliations and governments to increase safety awareness. CY 2009 accomplishments included:

- Reduced lost work days by 23 percent;
- Reduced lost time cases by 10 percent;
- Provided Material Safety Data Sheet automated program training to the shops; SHA is required to keep a separate safety data sheet for every chemical in use at SHA and to keep the safety data on file for 40 years; this automated program greatly increased storage capacity and record keeping;
- Streamlined the Injury/Illness Report packet to make it more user-friendly;
- Partnered with Injured Workers' Insurance Fund (IWIF) to develop and deliver injury prevention and reporting training to shop/district personnel;
- Standardized the contents of first-aid kits where facilities and vehicles formerly required different kits;
- Kicked off the *Report It!* campaign to report injuries within 24 hours; SHA is on target in CY 2010 to report 95 percent of injuries to IWIF within 24 hours;
- Developed two plans of action for StateStat for districts with higher than usual injury claims. One district reported a high number of poison ivy claims; SHA developed prevention training and partnered with the medical facility that treats the injuries; as a result, these claims were substantially reduced.



Medical Services

The SHA physician provided direct consultation on 224 employee or facility cases relating to medical issues. Many of these cases resulted in medical clearance for the employee to safely return to work or full duty, thus supporting employee productivity while minimizing health and liability risks.

Throughout FY 2010, the SHA physician provided consultation to employees on issues of medical concern in the workplace, such as emotional trauma, Lyme disease, mold, asbestos and lead. The SHA physician provided three group emotional trauma interventions involving a total of 70 to 80 SHA employees. These interventions were triggered by either the death or near-death of SHA employees. He provided multiple training classes across the agency on the prevention and recognition of Lyme disease, work injury procedures and the management of sick leave cases.

Safety-Sensitive Drug and Alcohol Testing

SHA conducts drug and alcohol testing of 75 percent of its safety-sensitive employees on a continual basis and has procedures in place to address those employees who miss this mandatory testing. SHA has met or exceeded the federally mandated goal of alcohol testing of 50 percent of safety-sensitive employees since CY 2004. In addition, SHA identified an additional testing site on the Eastern Shore to better accommodate the needs of SHA; as a result, Concentra added a new testing site to the statewide contract allowing all state agencies access to the new site for drug and alcohol testing as well as other medical services.

Wellness Programs

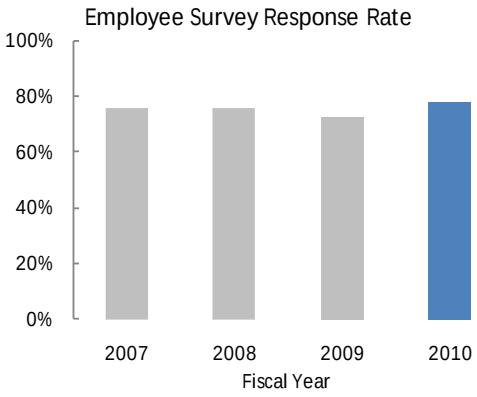
SHA assists employees with resources to improve their health and well-being. In FY 2010, the following initiatives were offered:

- Training on the prevention and recognition of Lyme disease and poison ivy/ poison oak/poison sumac;
- Information on seasonal and H1N1 flu from MDOT with flu awareness signage posted throughout headquarters; information on flu shot clinics/ sites; and distribution of hand sanitizers at designated sites throughout headquarters;
- Wellness programs, such as Men's Health Month, and e-learning in areas such as work/life balance and stress management;
- Training on work injury procedures;
- Annual testing of drinking water at headquarters for lead.

Employee Satisfaction

The SHA Employee Survey is administered every year to serve as a barometer of employee satisfaction with SHA as an agency and to ascertain employee views on topics such as leadership, strategic planning, human resources management and process management. The 2010 survey saw an increase in the survey response rate, climbing to 78 percent, up from 73 percent in 2009. This response rate is very encouraging and illustrates that the majority of SHA's employees would like the organization to know their viewpoints. Overall satisfaction with SHA dipped to 66 percent in 2010, a decrease from the 73 percent overall satisfaction rate in 2009. Given the difficult fiscal circumstances under which SHA has been operating for the last three fiscal years, it is no surprise that most all of our measures declined this year. Some of the findings include:

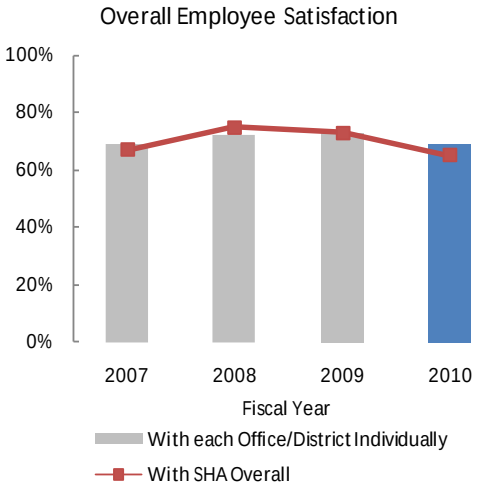
- Satisfaction with supervisors continues to be a major strength for SHA. SHA employees feel that their supervisors are accessible to them, treat them with respect and are technically competent at their jobs.
- Recruitment and communication continue to be areas of concern. Through focus groups, we found that communication stops at middle management. To address this, the Administrator scheduled forums with all senior and middle managers from every office and district.
- Employees are concerned about training and development when new technology comes along. This is a new concern this year and likely reflects recent budget cuts we have taken in this area.



Workforce Planning and Development

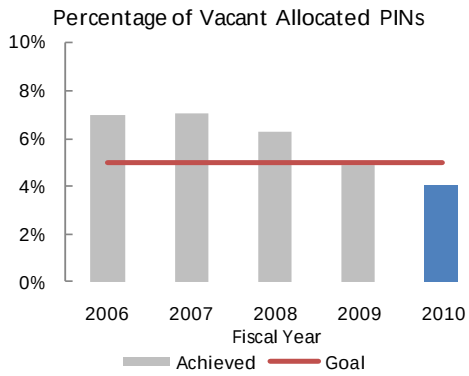
Workforce Resource Center

The Workforce Resource Center is a nationally recognized, award-winning, one-stop interface with access to resources that assist employees and managers alike in career and workforce planning activities.



Workforce Planning and Development

SHA remains committed to the development and enhancement of the skills of its workers. Workforce planning is a comprehensive, multi-year effort. The workforce planning and development initiative is working to align and coordinate SHA's succession planning needs with SHA University, strategic staffing, business planning and knowledge management efforts. Identification of critical positions at risk has been completed. Strategies to mitigate these risks will continue to be coordinated through the Workforce Planning and Development Committee.



- 35 employees are involved in the Highway Maintenance Succession Planning and Development Program to prepare employees for filling future specialized maintenance leadership vacancies;
- 188 individual development activities (such as training classes, on-the-job training, mentoring, job shadowing, participating on task force/teams, etc.) have been completed by program participants to ensure their developmental needs are being met;
- Under a federal Transportation Education Development Pilot Program grant, the following deliverables have been completed: Corporate University's Best Practice Report, Maintenance Career Handbook, Maintenance Training Analysis Report, and a maintenance skills assessment (analysis underway);
- Four leadership development programs helped develop SHA's succession program and future leaders in FY 2010; the Graduate Engineers Training Program which graduated 100 students, the Advanced Leadership Program with 22 graduates, the e-LEAD program with 60 graduates and New Supervisor Training Program with 66 graduates.

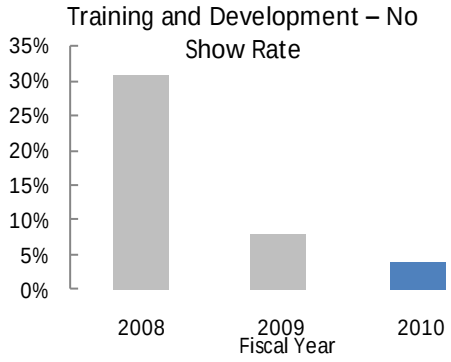
SHA University

SHA University provides the strategic mechanism for delivery of the agency's required training programs. This nationally-recognized award winning model identifies curriculums for each functional classification for career progression. More than 94 percent of SHA employees have a professional development plan in place for FY 2011, our highest rate ever. In addition, through SHA's R.O.A.D. Scholar e-learning portal, online learning has been adopted to a greater degree to provide a wider array of training on demand, in less time at reduced cost. Core training continues to be a priority with more than 4,000 completions with a majority of the employees completing the training online. Course evaluations indicate 90.1 percent of employees said courses met their training needs; 84 percent noted that online courses are an effective way to learn.

Training Process Improvements

- Piloted the combination of assigned testing sites and assigned testing packets with SIGMA (MDOT's applicant tracking database) auto-generated identification numbers in lieu of social security numbers for FMT IV, FMS I, ARME and RME testing;
- Implemented an evaluation program database for SHA's New Employee Orientation pre/post surveys to share results of the surveys and measure the success of the orientation;

- Developed and posted four core courses online (workplace/domestic violence awareness, sexual harassment awareness, ADA awareness and limited English proficiency);
- Implemented blended learning in e-LEAD and New Supervisor Training Program with classroom attendance, online learning and videoconferencing; as a result, SHA significantly increased enrollment in both programs and saved money;
- Restructured Graduate Engineers Training Program with two separate tracks for design and operations employees;
- Began use of in-house, professional, certified Myers-Briggs Type Indicator;
- Continued use of blended learning (videoconferencing, classroom, online, teleconferencing) for training activities, the use of which significantly reduced travel costs and time.



Information Technology/Automation

Information Technology Implementations or Enhancements

Technology is constantly changing and SHA must therefore continually improve or upgrade its information technology (IT) hardware and implement efficiencies in business processes and software systems to meet business needs. The Office of Information Technology worked closely with SHA offices to provide office-specific applications, many of which had an SHA-wide effect. In FY 2010, SHA implemented or enhanced significant changes to 26 IT systems. Some of these applications included CCMS with a public web portal that enables SHA customers to directly enter their requests for services; Earmarks 3.0; Onsite Consultant Tracking System; Bradley Monthly Audit Reports System; Materials Management System (Project 1); Check Receipt System and YouTube partnership for SHA TV for hosting all of the SHA Internet website videos. Other enhancements include: Cashiers Office System, Maryland Product Evaluation List, Meals Invoicing System, Office of Real Estate Management System, CCMS (Versions 2.2 and 2.3), Vendor Meals Invoice Processing System, Utility Upload System, Administrator's Correspondence Tracking Log, Project Life Cycle and Bradley.

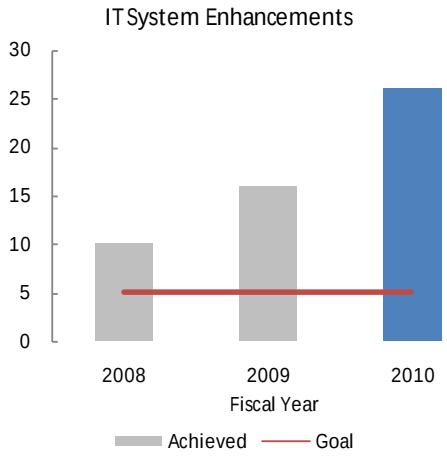
Hardware Management

- Reduced the number of physical servers by 30 percent and reduced the power supply by 23 percent in the Network Room, which in turn reduced the energy consumption by 34 percent; this included a reduction of 26 servers by applying new technologies in software tools;
- Implemented default duplex printing on all network copiers to save paper and reduce costs;

- Advertised nine batches of condemned equipment on GovDeals.com, recouping more than $28,000 back to the State in direct costs and $9,000 in person-hour savings for a total of $37,000 this year.

IT Efficiencies

- Improved customers access to project information and collaboration by expanding the use of Microsoft's SharePoint collaboration software;
- Implemented a token-less secure remote network access system; this allowed SHA to save over $7,600 in fees for replacement tokens that are now not needed;
- Implemented photocopier reductions that totaled $100,000;
- Implemented cell phone reductions that totaled $25,000;
- Achieved a savings of more than $200,000 by capping onsite contractors to limited number of hours from September through December 2009 in anticipation of assisting SHA with winter storm costs;
- Took a leadership role in MDOT computer hardware procurement that saved more than $100,000 over the amount spent for the same number of units in FY 2009;
- Saved about $154,000 on software and software maintenance costs through licensing consolidation and server reduction efforts;
- Implemented automated IT security procedures for account lockouts as per MDOT and Department of Information Technology revised security standards on all SHA IT-managed Oracle databases;
- Published a link to the national Freecycle.org from the SHA Intranet to continue and enhance SHA's commitment to environmental stewardship and awareness;
- Developed a service level agreement on the Automated Hauling Permits System, the most critical application, that required a recovery time objective of less than 16 hours;
- Implemented email-based faxing in order to eliminate phone/fax lines.



Project Delivery

Completing projects on time and on budget is important to SHA. In FY 2010, the agency improved in all four project delivery performance measures, from timely project advertisements to timely OTT dates.

Design Schedule

SHA's goal is 90 percent of major capital improvement projects valued at more than $1 million are advertised within 30 days of the estimated Advertisement date initially established at the time of construction funding. In FY 2010, SHA attained 90 percent, up from 71 percent in FY 2009. The primary reason for delays in project advertisements continues to be environmental permitting and third-party agreements.

Cost Estimates

SHA's goal is 90 percent of capital improvement projects valued at more than $1 million have low bids that are within 110 percent of the initial amount of construction funding approved. SHA opened bids on 53 projects; of these, 47 met this goal, or 89 percent, up from 71 percent in FY 2009. Almost all projects came in with bids that were well below the initial funding cost; in fact, the cumulative bids for these projects were about $91 million less than the original amounts funded. Five of the six projects with bids that exceeded this amount by more than 10 percent were labor-intensive bridge painting/maintenance contracts. The increases can be directly attributable to the change in federal wage rates that resulted in substantially higher labor rates for these contracts.

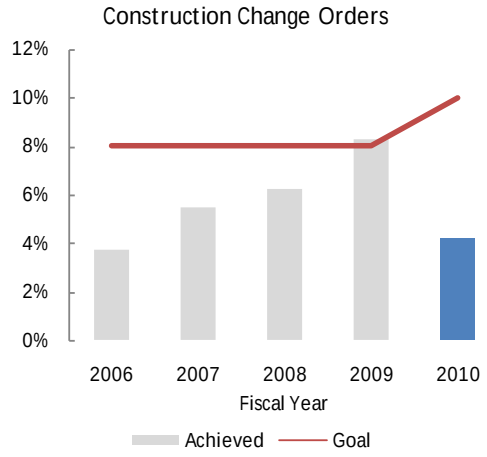
Change Orders

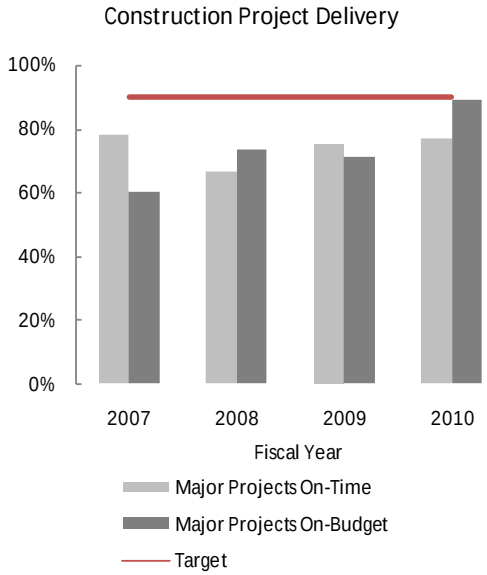
SHA strives to maintain construction change orders at or below 10 percent of the total construction contract expenditures. In FY 2010, SHA kept construction change orders at 4.2 percent; SHA was below 7 percent for the entire year. This is an improvement from 8.3 percent in FY 2009. This includes WWB expenditures. The dollar amount of change orders decreased from $36.6 million in FY 2009 to $16.5 million this fiscal year.

Construction Schedule

A total of 77 percent (10 of 13) of SHA's projects met the OTT date given at the project start, up from 75 percent in FY 2009. All three delayed projects were due to events outside of SHA control; one was a utility company delay; the other two were due to contractor delays (open-ended site conditions, contractor starting late). Four out of 13 projects opened to traffic early:

- US 1 Bridge Deck Replacement/Widen Over Sulphur Spring Road;
- I-95 Sound Wall from Temple Hill Road to MD 5;





- McDonogh Road Bridge Deck Replacement Over Gwynns Falls;
- I-270 Steel Girder Bridge Over Doctor Perry Road.

A new strategy was added in April to address late projects. District construction offices will review and update project status reports located in ProjectWise, in an effort to track projects that may not reach the OTT target. The districts then report this at the Total Quality in Construction Council meetings.

Performance Excellence at SHA

In FY 2010, SHA performed a state-wide internal assessment based on the Malcolm Baldrige criteria for performance excellence. The criteria are divided into seven categories: leadership; strategic planning; customer focus; measurement, analysis and knowledge management; workforce focus; process management; and results. The assessment was divided among the categories and category teams were formed. Every senior manager was on one category team. Some of the results are:

- The entire senior management team is now meeting periodically to discuss the budget process, to have a more consistent approach to the budget and to promote efficiency and possible savings;
- A group worked with the assistant district engineers of maintenance on a format to consistently decide when certain SHA assets should be retained for maintenance and when they should become candidates for capital projects;
- The Workforce Planning Committee was expanded to be chaired by three senior managers and to broaden involvement across the agency.
- Lt. Governor Brown led a demonstration, along with Governor O'Malley's deputy chief of staff and StateStat program director, of Maryland's StateStat program to his colleagues at the National Lieutenant Governors Association conference in Baltimore in July 2009, with SHA leadership in attendance. StateStat is a performance-measurement and management tool implemented by Governor O'Malley to make our state government more accountable and efficient.

Leadership

The focus of the Leadership Team in FY 2010 revolved around managing cost containment to meet reduced budgets using the following techniques:

- Adjusted performance targets where necessary to meet reductions in the operating budget;
- Implemented an across-the-board reduction in A&G costs through multiple methods ranging from direct cuts in resources to delaying purchases and projects until the next fiscal year;
- Implemented an employee cost-saving suggestion program that resulted in about 350 suggestions.

Business Planning and Performance Measurement

SHA continued its quarterly reviews with KPA councils to review and track performance measure results. Several measures were added or revised to adjust to changing agency performance measures and needs. SHA continues to report performance measures at monthly StateStat presentations to the Governor's Office. Regular reviews of SHA performance supported many of the key initiatives described in this report, such as:

- Targeted safety investments and traffic enforcement to locations where safety data shows a problem;
- Established detailed targets for maintenance activities that allows shop personnel to more proactively plan preventative maintenance work;
- Invested in bridge maintenance and construction activities to decrease the number of structurally deficient bridges;
- Maintained storm water facilities in compliance with National Pollution Discharge Elimination Systems (NPDES);
- Reached the statewide MBE/DBE goal for the year;
- Continually improved environmental compliance of SHA facilities.

In FY 2010, SHA finished the implementation of *Qlikview*, a business intelligence tool for maintenance activities and expenditures. The software produced a graphical dashboard of the performance for each of the SHA's 28 maintenance shops. The dashboard provides a one-stop location for three separate applications that managers can view from their own laptops and easily compare the progress of their shop to other shops across a span of years. Through the graphical representation of the shops' performance measures, management can establish future targets and track current *Qlikview* users, the results of which indicated that 80 percent had a satisfaction level of four and above on a five-point scale.

The use of *Qlikview* improved the following three business processes:

- Reduced the amount of time spent on the manual creation of the quarterly business plan reports and shifted it to analyzing the data and trends;
- Increased the integrity and accuracy of the data in MAXIMO and LOS databases;
- Improved the process of managing resources (time, money and people) in the shops.

Process Improvement and Management

Every year the Administrator asks that each office/district improve at least one process. Under current economic conditions, 25 offices/districts were asked to develop process improvements that resulted in concrete cost savings. This year, these cost savings were an instrumental part of SHA success in containing costs. All 25 offices/districts complied and implemented these processes. Some examples are: the Office of Maintenance switched from the current phone system to a VoIP; this switch not only improved communications, but saved SHA $410,000. District 2 reduced the hours of service at Bay Country rest area during non-peak hours, restructured the asset management contract and changed the scope of the District Office janitorial contract for an annual cost savings of $147,000.

Customer Communications, Services and Satisfaction

See the Customer Communications, Service and Satisfaction chapter of this report for complete details.

Workforce Planning and Development

Developing employee skill levels is a high priority at SHA and is discussed earlier in this chapter.

Highway beautification involves improving the appearance of the SHA highway network through landscaping, community planting, and wildflower and reforesting programs. Through its Partnership Planting Program, SHA partners with communities, local governments and others to implement projects along state highways to enhance entrances to towns and neighborhoods.

Environmental Compliance and Stewardship

Goal: Develop and maintain Maryland state highways in an environmentally responsible manner

Highlights of SHA's Accomplishments

- MDOT agencies, with extensive involvement by SHA, signed an agreement with the U.S. Environmental Protection Agency (EPA) to conduct self assessments of environmental compliance and disclose violations. Learn more about it at *www.epa.gov*.
- SHA implemented an innovative approach to mowing in sensitive habitat which received world-wide attention in national and international media: "Using goats to maintain turf in an environmentally sensitive area is not only an innovative idea, it clearly demonstrates our vision of a greener highway system," said Neil Pedersen.
- SHA completed the first year of a pilot project to evaluate the effectiveness of small wind energy systems to help power SHA facilities. A 2.4 kilowatt generator, installed at the Westminster maintenance facility in Carroll County, has produced 1,050 kilowatt hours of power that flows directly to the shop's power grid. The project has prevented the release of 1,070 pounds of carbon dioxide, compared to energy from coal.

Overview

SHA supported initiatives of Governor O'Malley's Smart, Green, and Growing initiative and the One Million Trees initiative, by planting and/or funding 500,000 new trees. Trees provide multiple benefits to the environment, such as enhanced water quality, improved air quality, habitat for wildlife and stabilized topsoil. Although SHA planted trees along state highways, in most cases SHA provided funding and other agencies provided labor and/or land for planting. Tree plantings include a project in Howard County in April 2010 in which 6,300 native trees were planted to replace unhealthy invasive plants that were removed. Trees were also planted throughout the Eastern Shore.

NEPA Compliance

In FY 2010, SHA completed National Environmental Policy Act (NEPA) compliance audits for nearly two dozen major projects finished in the previous five years, which resulted in 99 percent of all NEPA environmental commitments being met. The remaining one percent are in process and results are still outstanding. In addition, SHA began compliance audits for categorical exclusion type projects with environmental commitments and established a goal to complete this effort and have a tracking mechanism in place by the end of FY 2011.

Green Infrastructure

The Maryland members of the lead-state on the AASHTO Technology Implementation Group (comprised of SHA, Maryland Department of Natural Resources (DNR) and The Conservation Fund) pursued their mission in FY 2010 to market GIS technology to other state DOTs that lack this technology in their transportation-planning processes and efforts. The technology is two-fold; on the one hand, it is a GIS tool developed by DNR to highlight Maryland's network of important resources, and, on the other, The Conservation Fund's approach on how to best utilize the GIS tool to optimize opportunities to support sustainable ecosystems. Just as SHA highway networks are planned for long-term use with safety and mobility of the traveling public as the main goal, so also must our natural resources network be planned to preserve critical natural and cultural resources for sustainability of Maryland's ecosystems. The AASHTO Technology Implementation Group presented this technology at the 2010 American Planning Association's Delaware-Maryland regional conference in May 2010 and at the Transportation Research Board's 2010 Environment and Energy workshop in June.

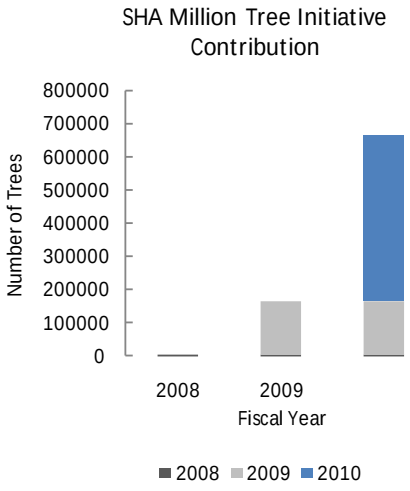
SHA's Climate Change Program

A strategic plan for climate change adaptation was completed and reviewed by a joint SHA/MDTA Climate Adaptation Team in FY 2010. The Team first met in February 2010 and will continue to meet to engage in infrastructure adaptation planning with a focus on how SHA transportation assets need to adapt to the effects of climate change. The strategic plan identifies strategies already in process as well as others to be implemented. A GIS application is being used to identify areas vulnerable to sea level rise and storm surge in relation to SHA assets, including roads, bridges, and facilities. GIS tool development and infrastructure analysis will continue to further identify and develop strategies within the adaptation plan. SHA's Climate Change Program supports MDOT initiatives and the Governor's Climate Change Action Plan.

Environmental enhancements as an integral part of ICC

- Work continued on more than 50 ICC environmental mitigation and stewardship projects;
- The largest stream restoration project in Maryland's history was awarded this past year to provide 18,000 linear feet (3.9 miles) of stream restoration along Northwest Branch, adjacent to Bonifant Road. The project includes innovative features and structures designed to improve and enhance the Northwest Branch's ecosystem; it will reduce soil erosion and reconnect the stream channel to its original floodplain. This project will use large trees harvested from the ICC Contract B's right-of-way (ROW) to restore the stream's natural character by careful placement of the trees along its banks;

- The ICC project's reforestation program planted 64 acres of trees, with three planting sites either completed or underway;
- While clearing land for the ICC, six large stands of bamboo were identified and donated to the National Zoo to help feed their giant pandas. Giant pandas are listed as endangered in the World Conservation Union's Red List of Threatened Animals;
- Fourth- and fifth-graders from Washington Christian Academy in Olney participated in an Earth Day event organized by the ICC project staff. Turtle search staffers taught the students how the Eastern Box Turtle initiative has saved approximately 900 turtles. The turtle initiative, part of the ICC project's extensive $370 million environmental program, began prior to construction in fall 2007. An update of the three-year study, conducted by Towson University in partnership with SHA, was also issued;
- SHA and the Montgomery County Department of Parks hosted a grand opening celebration and ribbon-cutting on June 19 for the Olney Manor Dog Park, which is a part of the ICC's extensive community stewardship program. The enclosed, one-acre park includes separate areas for both large and small dogs, seating for dog owners and plenty of trees for shade.



One Million Trees Initiative

SHA worked with DNR, FHWA, the Department of Public Safety and Correctional Services (DPSCS) and community organizations to plant native trees along Maryland roadsides and in state ROW in central, southern, eastern and western Maryland. SHA is funding the trees and materials and DNR is funding the labor provided by DPSCS inmates. Since the program's initiation in FY 2008 to FY 2010, SHA has directly planted or funded the planting of 500,297 new trees. These plantings are part of the One Million Trees initiative, part of Governor O'Malley's Smart, Green, and Growing initiative, as noted above. Trees are important to creating a sustainable environment. Planting trees reduces SHA's inventory of areas to mow, which helps to decrease greenhouse gas emission from mowers and operational costs to SHA. An acre of mature trees can absorb an equal amount of carbon dioxide produced by a car driven 26,000 miles per year. Trees also stabilize topsoil and save energy by shading surfaces during summer months. The project, lasting up to two years, will also help employ up to ten people from the region.

Helping to Restore the American Chestnut

In FY 2010 SHA and the American Chestnut Foundation (ACF) Maryland Chapter signed a partnership agreement to plant hybrid blight-resistant American chestnut trees on nearly two acres of land near the Hampstead Bypass (MD 30) in Carroll County. The American chestnut tree population was almost wiped out in the 1950s, following the loss of nine million acres of native chestnut trees affected by a non-native fungus blight first recognized in 1904. American

chestnut trees have a rapid growth rate and within a few years, will help offset carbon dioxide, thought to be partly responsible for climate change. Trunks on mature chestnut trees average four feet in diameter and can grow up to 100 feet tall. The trees provide a food source for people and livestock as well as shelter for wildlife. SHA and ACF volunteers will closely monitor the newly planted saplings for any indication of blight and ACF will maintain the trees. This partnership to re-establish the American chestnut exemplifies SHA's commitment to the natural environment.

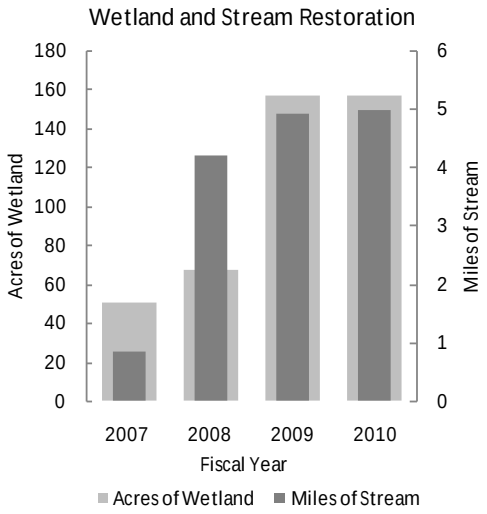
Wetland and Stream Restoration

SHA proactively restores streams and wetlands as part of its environmental stewardship efforts to support Smart, Green and Growing. The projects are subject to funding availability; because of severe budget constraints in FY 2010, no wetland stewardship acreage was contributed.

SHA was able to restore 300 linear feet (0.056 mile) of streams along a tributary of Tuscarora Creek in Frederick County, which helped improve water quality from highway runoff as well as provide a vital habitat for native wildlife. The project was designed to restore a stream channel after removal of dislodged concrete flume between MD 180 and US 15/US 340 interchange in Frederick County. The objective was to stabilize the stream banks and bed with natural channel design techniques and to reconnect the floodplain with the stream channel, which reduced the sediment coming from the river bank and contributed to improved water quality from this stream that leads into the Potomac River. It reduced stream damage and bank loss within the SHA ROW, improved unsafe conditions for adjacent property owners, visually and functionally enhanced the natural environment and improved stream habitat.

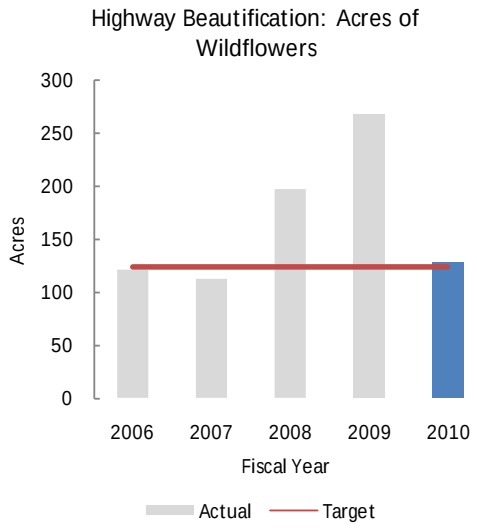
Wildflower Program

Highway beautification involves improving the appearance of the SHA highway network through landscaping, community planting, and wildflower and reforesting programs. Through its partnership planting program, SHA works with communities, local governments and others to implement projects along state highways to enhance entrances to towns and neighborhoods. As a result of funding issues, the partnership planting program was suspended between January and June 2010. However, tree planting and wildflower meadow establishment went well despite adverse weather conditions. More than 25,000 trees and 128 acres of wildflower meadows were planted; the wildflower planting exceeded SHA's goal to seed 125 acres of wildflowers annually.



Construction work on the Tuscarora Creek project.

After construction of the Tuscarora Creek project.



Invasive Porcelain berry overtaking native plants along I-83 in Baltimore City.

Invasive Species Control/ Meadow Restoration

SHA initiated several invasive-species removal and roadside reclamation projects funded by ARRA in FY 2010 that support Maryland's economic recovery and SHA's environmental stewardship goals. Construction is scheduled to be completed in FY 2011. Some projects included:

- I-95 Median from I-495 to MD 100: the removal of callery pear, tree-of-heaven and other invasive trees and Japanese honeysuckle vines;
- I-270 Interchange: removal of callery pear, tree-of-heaven and other invasive trees and Japanese honeysuckle vines, and native reforestation planting and establishment;
- US 50/I-495/I-95 Interchange: removal of callery pear, tree-of-heaven and other invasive trees, Japanese honeysuckle vines, and multiflora rose, with native reforestation planting and establishment.

In addition to the ARRA projects, an invasive species removal project was initiated on the I-83 (Jones Falls Expressway) corridor from I-695 to the Baltimore City line. This project involves the removal of invasive vines such as porcelain berry and Japanese honeysuckle; it will continue during FY 2011 and be followed with native reforestation planting and establishment.

In support of the Maryland noxious weed laws, SHA works with the Maryland Environmental Service to improve our GIS/GPS inventory tracking system of Canada thistle and phragmites. This system is being revamped to provide a complete inventory of these invasive species in the most efficient and cost-productive manner.

Mowing for Meadows

SHA continued to make Maryland roadsides greener through a mowing reduction program. This initiative restores natural meadows by reducing mowing along roadways. SHA's Mowing for Meadows program reduces the area of mowing along roadways by approximately 8,500 acres, saving approximately $1 million per year. By allowing grasses to grow naturally, SHA will also re-establish vegetation, forested areas, and enhance the environment while maintaining safety. SHA continues to establish perennial wildflower meadows through the Wildflower Meadow program to further reduce mowing and air pollution, and to reduce the amount of sediment that enters wetlands and waterways through stormwater runoff. The Wildflower Meadow program continues to gain acceptance within the SHA operations community as an alternative treatment for areas that were once mowed which has increased interest is leading to the identification of suitable new sites.

As noted above, SHA planted 128 acres of wild meadows in FY 2010, the long-term effects of which include:

- Improved water quality - meadow plants and trees decrease stormwater runoff better than mowed turf, resulting in better groundwater recharge and reduced sediment in bodies of water;
- Improved air quality – the growth of more trees and plants will result in the further removal of carbon dioxide, which will replenish oxygen and reduce the effects of greenhouse gas emissions;
- Wildlife habitats - meadow plants and trees attract small animals, birds and insects that are an important part of our ecosystem;
- Greater cost-savings - meadows and trees require low maintenance and with no annual reseeding, fertilizer or pesticides costs.

Protecting Wildlife Near the Hampstead Bypass Project

SHA continued its conservation grazing project of using goats and sheep within eight acres of meadows and bogs that surround the Hampstead Bypass in Carroll County. FY 2010 marked the second year of a $10,000 pilot project in an area in which traditional mowing methods could have led to a major disruption of the habitat or even injury or death of the bog turtle, listed as threatened by the Federal Endangered Species Act. SHA is allowing goats and sheep to graze in the fields, providing vegetation management during the mowing season which is just before the bog turtles begin hibernating for winter. To further protect the turtles SHA installed special fencing near the northern end of the bypass to deter the turtles from crossing the roadway.

In another section, SHA is cultivating a field of white turtlehead (Chelone glabra) plants, a Maryland native species. The plants are the main habitat for survival of the official state insect, the Baltimore Checkerspot butterfly. Listed as a rare species by DNR, the population of this butterfly has been further diminished in recent years by loss of natural habitat and this cultivation is an effort by SHA to increase the butterfly's population.

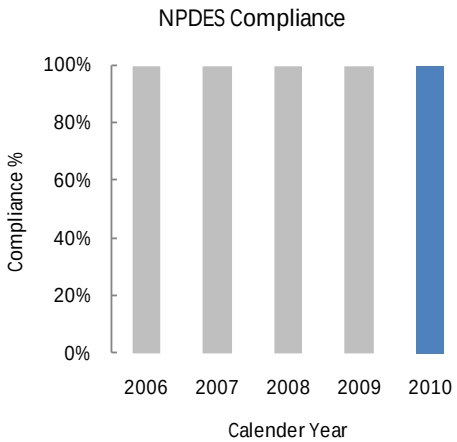
As noted above, SHA and ACF Maryland Chapter planted American chestnut trees on nearly three acres of land at the Bypass, with the goal to re-establish the tree.

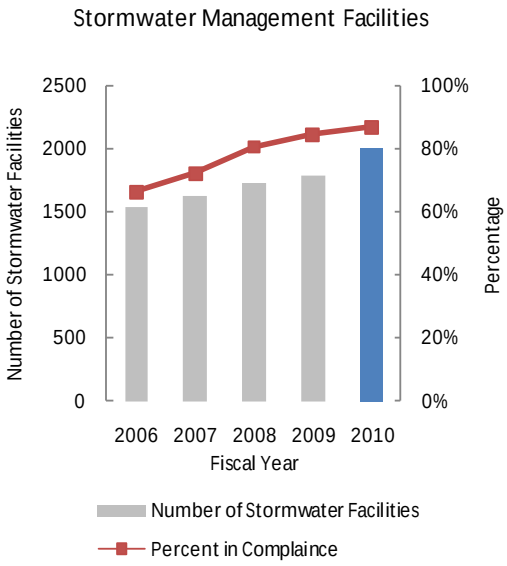
Improving Water Quality and Protecting the Chesapeake Bay

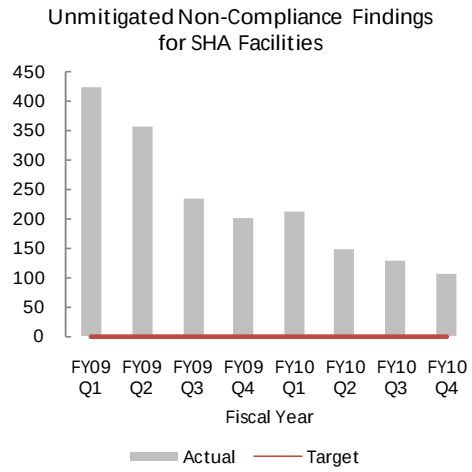
SHA's contributions toward restoration efforts for the Chesapeake Bay are extensive, ranging from participating in policy discussions to providing project funding and other support to other agencies for environmental enhancement activities. In FY 2010, SHA continued to participate in watershed registry meetings with the EPA, FHWA, U. S. Army Corps of Engineers and MDE to collaborate on watershed mitigation and enhancement activities. In addition, SHA's annual compliance rating with the NPDES requirements remains at 100 percent.

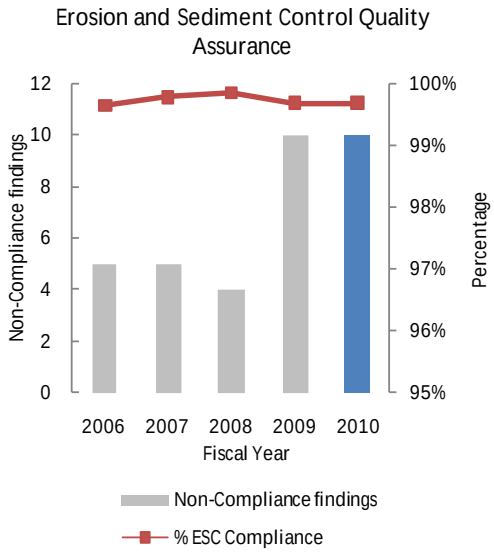
Baltimore Checkerspot butterfly.

Bioretention pond at Lutherville Elementary School.









SWM facilities are an integral component of the NPDES requirements, and SHA is working to attain 90 percent functionality statewide by 2012 in its inventory of SWM facilities. In FY 2010, SHA achieved 87 percent. SHA's SWM program uses best management practices to safeguard the water quality of local waterways and the health of aquatic ecosystems. SHA is working with EPA to develop the Maryland portion of Chesapeake Bay Total Maximum Daily Load (TMDL), the maximum amount of pollution the Chesapeake Bay can receive and still meet water quality standards, and a model for quantifying SHA pollutant load reductions to demonstrate TMDL compliance.

Environmental Compliance at SHA Buildings

SHA completed Phase I environmental compliance audits at 29 maintenance facilities and initiated Phase II audits under a voluntary self-audit/self-disclosure agreement with EPA. Despite a 60 percent increase in the number of inspected or audited facilities under Phase 2 (from 29 to 48 facilities), SHA achieved outstanding performance in FY 2010, as demonstrated by a continued decrease in the number of findings and the number of findings remaining to be resolved. At the beginning of FY 2008, SHA had 1,447 findings; at the close of FY 2010, SHA had only 106 remaining findings.

Erosion and Sediment Control (E&S Control)

SHA complies with state E&S control permits and ensures that projects are built and maintained to meet or exceed permit conditions. Although achieving 100 percent compliance can be a challenge because of the complexity of construction projects and weather conditions, SHA achieved a 99.69 percent rating on construction projects. However, SHA continues to strive for 100 percent compliance because it recognizes that even a single non-compliance finding can be detrimental to the environment and may raise concerns for the public and regulators.

SHA increased its E&S control inspection efforts in FY 2010 and moved to electronic data entry for inspection reports and documentation. An SHA quality assurance toolkit consolidates information into a single location, allowing the team to work independently with instant access to critical information. Inspection reporting is now completed in real-time, with access to reports by all management and system users. In FY 2010, a total of 3,194 inspections were performed on SHA construction projects, with the above-noted 99.69 percent compliance.

SHA Environmental Marketing Plan

SHA initiated an agency-wide environmental marketing plan in order to raise awareness of the substantial contributions SHA makes to environmental protection and enhancement. In FY 2010, the Marketing Plan Team completed the Message Map and a draft priority list of programs and projects for the website packaging.

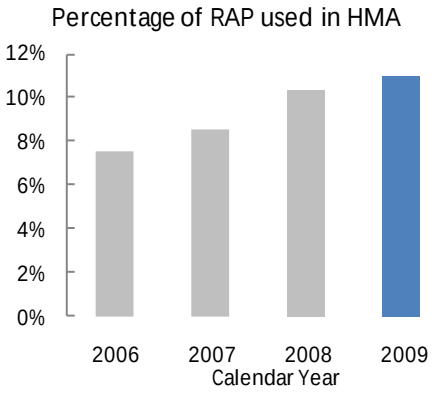
Environmentally Friendly Fuel Usage

SHA successfully implemented strategies to reduce fossil fuel dependence and improve air quality with alternative and low-emission fuels. All SHA fuel pumps have been converted to alternative fuels and biodiesel continues to be delivered to all SHA shops. All SHA diesel-powered vehicles and equipment use ultra-low sulfur-bio diesel fuel. SHA will continue to reduce consumption of gasoline by its light-duty vehicle fleet using conservation strategies, such as scheduled fleet replacements by higher-efficiency vehicles. Overall, gasoline usage was five percent lower than the established FY 2010 reduction target. Other accomplishments in FY 2010 include:

- A project to retrofit 100 dump trucks with diesel oxidation catalyst continues;
- Enforcement of a vehicle and equipment engine-idling policy for all employees and consultants continues;
- Twelve trucks that are more fuel-efficient were purchased to replace larger trucks with lower miles per gallon ratings;
- A new additive was included in SHA's diesel fuel that enhances the quality of the fuel and leading to more efficient combustion and overall improved fuel economy, which is expected to reduce greenhouse gases and improve environmental quality;
- Proactive fuel-saving measures to reduce automobile usage, such as carpooling and videoconferencing, continues;
- SHA completed the first year of a pilot project to evaluate the effectiveness of small wind energy systems to help power SHA facilities. Data will be collected and used to project the cost benefits, design opportunities and constraints of larger systems requiring higher levels of investment. The 2.4 kilowatt generator has produced 1,050 kilowatt hours of power and prevented the release of 1,070 pounds of carbon dioxide compared to energy from coal.

Recycling

SHA takes its recycling responsibilities seriously and continued to recycle far more than the 20 percent of its solid waste required under the Maryland Recycling Act of 1988. Approximately 5,000 tons of recycled material was credited toward the recycling regulatory compliance by MDE, resulting in a recycling rate of 49 percent for CY 2009. In addition to cans, bottles, paper and cardboard, SHA recycles used motor oil and fuel filters, antifreeze, metal from signs and guardrail, batteries, tires, fluorescent lamps and lamp ballasts, computer and electronic equipment and landscaping debris. SHA recycled an additional 78,000 tons of materials not required by law, making it one of the highest-performing agencies in state government.



SHA continued to partner with industry and environmental agencies to increase the use of recycled materials in SHA highway construction projects. A recycled materials specification has been finalized and is now part of construction project advertisement packages to encourage the use of recycled concrete materials.

Preserving Maryland's History

War of 1812

In partnership with the University of Maryland, SHA continued archeological excavations in Bladensburg to uncover information about Maryland's role in the War of 1812. In summer 2010 SHA archeologists were involved in several War of 1812-era excavations. SHA and University students excavated at the Market Master's House, a colonial store and one of the earliest mail stops in the country, and the George Washington House/Indian Queen Tavern, a colonial-period tavern in the port town. SHA archeologists used metal detectors to survey a portion of the Bladensburg Battlefield within the Fort Lincoln Cemetery and undisturbed parts of the cemetery were examined for evidence of a War of 1812 battle fought on August 24, 1814. Two musket balls and a piece of lead shot that may date to the battle were identified. A team of underwater archaeologists led by Dr. Robert Neyland (US Navy), Dr. Susan Langley (MHT) and Dr. Julie Schablitsky (SHA) conducted a three-week survey in the Patuxent River to search for the remains of Commander Joshua Barney's flagship, *Scorpion*. The *Scorpion* was scuttled with the rest of Commander Barney's flotilla in 1814 by the U.S. to avoid capture by the British.

Scorpion base camp for underwater explorations.

Native American Consultation

SHA is assisting FHWA with federal responsibilities, under Sections 101 and 106 of the National Historic Preservation Act of 1966, to consult with Native American tribes that have an interest in Maryland projects. Written guidelines for SHA's consultation process with federally recognized tribes and Maryland Native American groups were developed in 2010 as part of the SHA Cultural Resources Section Policy Manual. These guidelines are updated as more Native American groups respond to SHA's overtures, as more information on tribal backgrounds is collected, and preferred levels of consultation are established. Forms that were developed to facilitate the consultation process on specific SHA projects are now in use. Consultation has been initiated for several projects including replacement of the MD 328 bridge over Tuckahoe, MD 4 Thomas Johnson Bridge, I-70/US 15 Transportation Corridor, MD 24 at Rocks State Park, and US 301 in Waldorf.

Deputy Administrator Doug Simmons excavating at the Indian Queen site.

Customer Care Management System

Setup · System Log · Help & Training · Logout

force.com apps CCMS

Home | Dashboards | Advanced Search | Service Requests | Informational Only | Customers | Employees | Reports | Solutions | Nature of Calls

Dashboard
CCMS Dashboard

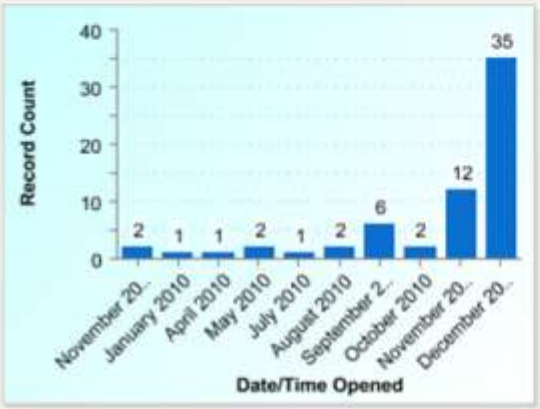
« Go to Dashboard List

View Dashboard: Type here to search for dashboard ... Edit Clone Refresh

Customer Initial Response Timeframe

Goal: Provide Initial Response within One Business Day and Excludes Map Requests From OPPE

Open Service Request Tickets By Month



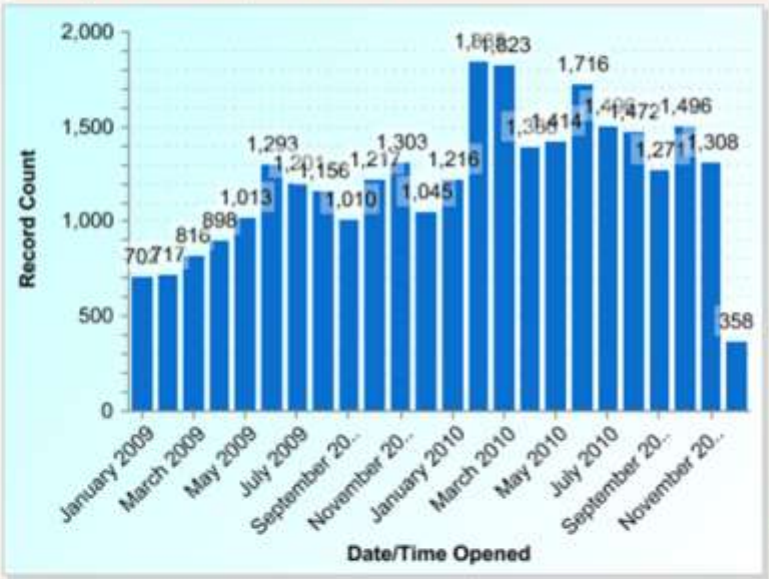
Top 20 Service Request Topics

Calendar Year to Date (excluding maps)

Topic	Record Count
Animal Removal	4,133
Potholes / Holes / Sinkholes	2,953
Sign / Digital Message Sign	2,403
[illegible]	2,322
[illegible]	1,704
[illegible]	1,611
[illegible]	1,532
[illegible]	1,509
Tree and Brush	1,370
Debris, Litter and Graffiti	1,338
Mowing & Trimming	1,305

SHA successfully launched the new Customer Care Management System (CCMS) Version 2.0. The new system provides reporting capabilities, email notifications and allows for data analysis, tracking and performance measurement.

Monthly Service Request Volume



Excludes Map Requests Processed from OPPE

Service Request Tickets Created By RC

Current Calendar Year (2010)

Receiving Responsibility Center	Record Count
Deputy Adm - Chief Engineer, Operations	14
Deputy Adm - Chief Engineer Planning and Engineering	2
District 1	574
District 2	431
District 3	3,661
District 4	1,828
District 5	1,201
District 6	1,698
District 7	1,048
Office of Administration	8
Office of CHART	184
Office of Communications	946
Office of Construction	9
Office of Counsel	2
Office of Environmental Design	44
Office of Highway Development	120
Office of Information Technology	1
Office of Intercounty Connector	6
Office of Maintenance	42
Office of Materials Technology	92

Top 10 Routes -

Route Number
355
495
97
95
185
212
410
32
1
187

Animal Removal

Top 10 Routes -

Route Number
270
28
355
108
70
27


Counties
Help for this Page
Potholes Reported
Current Calendar Year

Record Count	County
90	Montgomery
59	Montgomery
57	Montgomery
56	Prince George's
46	Montgomery
40	Prince George's
32	Prince George's
29	Anne Arundel
26	Prince George's
26	Montgomery

Current Calendar Year
0.07: 3%
Sub-Topic
Deer
Domestic
Other
Wildlife
1.86: 89%
d Count (Thousands)
Animal Removal Request
Current Calendar Year

Record Count	County
176	Montgomery
113	Montgomery
80	Montgomery
67	Montgomery
63	Washington
58	Montgomery

Customer Communications, Service and Satisfaction

Goal: Provide services and products to our customers that meet or exceed their expectations

Highlights of Accomplishments:

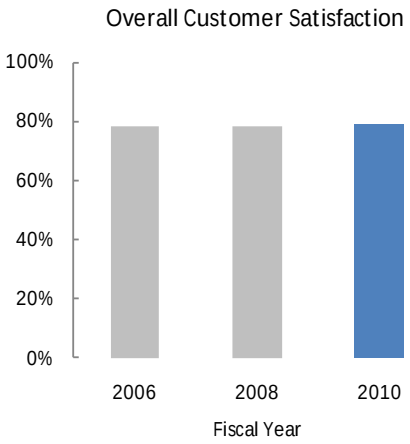
- SHA increased responsiveness to customers through implementation of an Internet link available 24/7 for service requests and an internal customer care management system that has made responding to customer requests an overall priority of the agency.
- Better communication with truck drivers about a steep hill saved lives on MD 135 in Western Maryland.
- Used input from customer advisory groups to guide SHA's strategic approach in the areas of environmental stewardship, maintenance activities and ADA compliance. This allowed us to more effectively prioritize our limited resources by matching our efforts more closely to the priorities of these customer groups.
- Met regularly with our key partners such as consultants, contractors and materials suppliers and worked jointly with them on implementing process improvements. This teamwork resulted in streamlining processes and facilitating agile, innovative responses to new requirements.

Overall Customer Satisfaction at SHA

SHA's overall customer satisfaction rating is consistently high year after year. This rating is based on a weighted average of customers ranking services based on what is most important to them and how well SHA does in performing them. The activities that are most important to customers are keeping bridges safe, plowing snow, clearing the road after an accident, maintaining roadways and managing traffic. This confirms that SHA is placing its resources on the public's most important priorities. Also, it is a reflection on the success of SHA's multi-pronged approach to customer satisfaction that includes:

- Being responsive to customer requests for service and assistance;
- Communicating openly with customers and understanding their needs and expectations;
- Maintaining good relationships with customers, partners and stakeholders;
- Improving processes so that we can provide services that meet the customers' needs.

Providing Service and Assistance to Customers

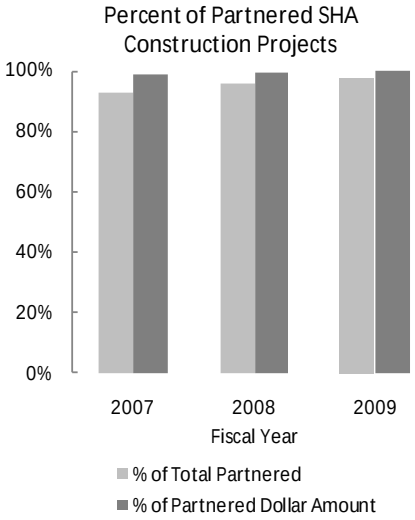


Highway Safety on the Eastern Shore

During the construction of the US 113 widening project, a concerned citizen contacted the Worcester County Commissioners regarding the elimination of a southbound turning lane that resulted in an unsafe turning condition. Wayne Snowden and Mike Mariner from the District Traffic Engineering Staff met with Jamie Mills and the Construction Inspection Staff to develop a temporary striping plan to alleviate any concerns with respect to left turning movements at Goody Hill Road, Downs Road and Croppers Island Road. The existing temporary pavement markings between Goody Hill Road and Croppers Island Road were blacked out and bypass lanes installed by shifting traffic to the right and installing left turning bays at the three left turning locations. The quick response helped mitigate any potential problems for local traffic and was greatly appreciated by the concerned citizen.

Customer Care Management System (CCMS)

SHA has been focused on improving responsiveness to customer requests. There has been steady improvement over the past two years due to a number of initiatives, especially the implementation of CCMS. This system has raised the priority for responding to requests by all employees. SHA responded to 6,941 service requests in FY 2010; 82 percent of them were done within the goal of the next business day. The initial response rate has been steadily improving with communication regarding the requirements of CCMS and business process improvements.



CHART

This section is dedicated to recognizing customer satisfaction that is not conveyed when benefits are measured, but nonetheless forms an essential part of SHA's customer service. CHART's key accomplishments for the fiscal year are listed below along with a selection of compliments and recommendations from the traveling public. During FY 2010, SHA responded to and cleared more than 17,000 incidents and assisted more than 18,000 stranded motorists. CHART's efforts did not go unnoticed as is indicated below.

Customer Quote: "I am writing to express my sincere thanks for the kindness and professionalism of one of your ERT's. [We]… were going to the airport to catch a flight when we had a total blow-out of a rear tire on I-695 just at the I-95 interchange. It was not a good spot to stop, but fearing further damage to the car, we did not dare move it. About 5 minutes after we stopped, the ERT pulled up behind my car. He could not have been nicer or more helpful, his truck providing adequate visual warning to drivers exiting I-695. We arrived in time to dash through security and make our plane. It is reassuring to know that such competent people are helping to keep Maryland's roads and drivers safe."

Customer Communication

Improving Truck Safety in Western Maryland

MD 135 is a two-lane, two-way road that traverses the side of Backbone Mountain in rural Western Maryland. A four-mile stretch of this road has an almost continuous steep downgrade that ends with a sharp right turn where the Potomac River, Savage River and steep rocks meet at the base of the mountain. This requires a near stopping condition for a lot of large trucks that use the road to serve local businesses. Although never statistically identified as a high-crash location because crashes were not frequent, the consequences were always severe - resulting in numerous fatalities – when there was a crash.

SHA determined that safety provisions were in place but were not being fully used by truck drivers. This was addressed with a unique runaway truck detection and warning system and signs to better communicate with drivers along the way:

- The new signs are significantly oversized, high-performance, wide-angle, retro-reflective and placed in strategic locations down the mountainside to increase driver awareness.
- A sensor was installed at a point before the escape ramp where any transmission or brake fading would be identified. The system determines if the truck is going too fast and signals the High Intensity Beacon (HIB) lights to immediately start flashing on an overhead sign that reads "Truck Runaway Danger When Flashing - Escape Ramp One Mile." This clearly indicates to the truck driver that the vehicle is a potential runaway and should strongly consider using the escape ramp a short distance ahead.
- A second mandatory truck pull-off brake check area is located after the HIB to give the driver a last attempt to stop the vehicle without having to use the ramp. If they determine that they have lost control, it is clear when and where to pull off into the escape ramp.

Since the completion of the project, including implementation of the runaway truck warning system, there have been no fatalities at the base of the mountain as a result of truck runaways. Numerous phone calls from local truck drivers and past focus groups have indicated their approval and gratefulness for the additional safety measures taken by SHA to increase the awareness and make corrections for the atypical route.

Internet Access for Customer Requests

In December 2009, SHA increased access to customers by providing an Internet link, available 24/7, for service requests and other concerns. This link, which can be accessed at www.roads.maryland.gov, then clicking on "Contact Us" in the left navigational bar, is a welcome enhancement that allows the public direct access to CCMS. Customers do not need to know which office is responsible for their specific concern; requests are automatically routed. The system also generates a tracking number, which a customer can use to follow up on his or her request. On average, SHA receives approximately 400 requests via the Internet each month, which is about one-sixth of all requests.

Www.roads.maryland.gov provides a 24/7 link for customer requests and answers to frequently asked questions.

Providing Easy Access to Travel Information

The CHART website proved valuable to Maryland's travelers. It experienced record-breaking usage during the snowstorms in February 2010, recording more than 16 million web hits in that month, which contributed to more than 83 million for the fiscal year. A citizen commented, *"I find the interactive mapping and the webcam views excellent tools in winter."*

The website and upgraded Internet pipe allow new technology that is able to stream 142 single camera feeds and more concurrent video connections for the public.

C.R. writes: Thanks for your work in making this website possible. It is extremely helpful to me in planning my daily travel.

J. writes: Fantastic! Thank you for the new single traffic camera feeds. This is a big improvement over the old tour system. I use these cameras every morning and every evening prior to beginning my commute.

D. writes: I would like to take a minute and say THANK YOU for the efforts that have resulted in the tremendous increase in available traffic cameras for viewing. My wife and I travel to [Ocean City] frequently, and the availability of additional cameras has made a huge difference in helping us gauge when to leave/return based on traffic volumes. Great job to your whole team.

In January 2010, CHART launched a pilot to display its travel times on digital overhead signs along I-95 between Baltimore and Washington. The program was later expanded to 23 locations, including the Baltimore and Washington beltways.

T. writes: I just want to say that I really like the new travel estimate messages on I-95 S[outh] during the morning rush (I've seen them between MD 175 and the Capital Beltway). Assuming that these messages can be updated frequently and with accuracy, I think they'll be helpful in managing my expectations of what I'll be encountering on my commute. Kudos, and thanks!

K. writes: I really like the "travel time" signs that show the driving time to a location X miles away. Simply broadcasting "heavy congestion ahead" on an electronic sign is not that useful. Please try to implement more of the "travel time" type of signs. Thank you.

Website and Social Media

SHA enhanced our webpage to provide better communication such as:

- "Contact Us" page was improved with a "Frequently Asked Questions" section and contact information.
- Launched "SHA TV" with news videos and packages available on SHA's website.
- Added RSS feeds to statewide and local district pages on the website which show up-to-date news.
- Continued the use of Twitter to reach customers in a non-traditional manner. It was used extensively during the blizzards of 2009/2010.

Media Interaction

SHA hosted dozens of events and news conferences about SHA activities and projects to generate news coverage. The ICC was the subject of a Japanese hour-long documentary airing on TV Kanagawa (KTV), a television outlet in the Japanese city/area of Kanagawa just outside Tokyo. A Japanese TV crew spent several days interviewing SHA and ICC leaders and taping the project's construction sites. A local campaign underway in Japan is the impetus for the ICC documentary intended to persuade elected officials, citizens and businesses to support the building of a highway similar to the ICC in the Kanagawa area.

Relationships with Customers, Partners and Stakeholders

Customers with Disabilities

After a complaint was received from a resident with disabilities in Silver Spring regarding the accessibility of sidewalks in the county that involved both SHA and Montgomery County, SHA contacted MD/DC Utility Association to determine a resolution. Together they identified situations where projects did not include the relocation of utility poles where necessary. The situation was resolved. In addition, with the assistance of the Public Service Commission, SHA used this information to develop a plan to identify further challenges to resolving these types of ADA-compliance situations. A workshop was organized to meet in early 2011 for this purpose. Through a solid partnership between agencies a helpful resolution opportunity came to fruition and future problems will be addressed in a proactive manner.

Environmental Advisory Committee

SHA continues to meet with an Environmental Advisory Committee (EAC) comprised of a group of senior-level professionals who volunteer as advisors to SHA on matters relating to the Administration's environmental policies and programs. The Committee met with SHA senior staff to provide input on policy level issues. Individual members of the EAC continued to work with various SHA staff throughout the year to foster ideas, facilitate discussion and provide feedback on various initiatives. Some of the initiatives that resulted from this partnership during the year include:

- An EAC member was appointed as co-chair of SHA's committee to increase the use of recycled materials in highway construction.
- SHA held discussions with Baltimore County and other environmental stakeholders on our de-icing salt management program and identified and implemented a variety of strategies to address environmental sensitivity issues.
- With the encouragement of the EAC, SHA initiated development of an agency-wide environmental marketing plan to raise awareness of the substantial contributions that SHA makes to environmental protection and enhancement. The marketing team completed a message map and a draft priority list of programs and projects for website packaging.

Outreach Regarding Highway Maintenance in the Year 2020

Under a restrictive economic climate, the SHA's Office of Maintenance is exploring ways to optimize SHA operations given the anticipated capabilities of personnel, equipment and financial resources in order to meet the expectations of numerous stakeholders. Input was collected to rate the importance of the various maintenance activities from stakeholder groups such as safety and environmental groups, contractors, media and finance and policy arenas. Snow and ice removal was the most important activity, followed by roadway patching and bridge maintenance. With this customer input SHA will be able to manage activities in a manner that will meet expectations while attaining the needs of the community.

Highway Consultants, Contractors and Materials Suppliers

D/MBE Firms – SHA reviewed its relationship with MBE, DBE and small A/E firms for ways to enrich and improve the success of agency-firm interaction. In order to better serve these firms, SHA is targeting opportunities for progress by reassessing audited overhead rates, inconsistencies in the fulfillment of guidelines, the SBR program, the small business recognition and commitment to quality and the transfer of funds between subconsultants.

Partnering meeting between contractor and SHA to discuss project construction.

ACEC – SHA meets with this group every three months. Sub-teams are formed as needed to review issues such as program funding levels, MBE/DBE participation, potential legislation, design-build and salary caps for consultants.

Maryland Transportation Builders and Materials Association - This group continues to meet quarterly and has work groups working together on revised policies and specifications relating to pavement markings.

Asphalt Industry partners – SHA and our partners in the asphalt industry worked jointly on about a dozen process improvements throughout the year. Some key accomplishments include:

- Improved turnaround time for Density and Mix lab results by approximately 50 percent;
- Modified "thin lift" specification section to comply with federal requirements for ARRA projects;
- Reached agreement on "rounding" methodology for hot mix asphalt calculations that follows AASHTO standards;
- Developed a new recycled asphalt pavement (RAP) specification that allows for a higher percentage of RAP in our mixes;
- Organized statewide roundtable discussions to keep all stakeholders informed on important issues, including specification changes, key contacts, and ways they can facilitate more expedient test results;
- Jointly reviewed quarterly performance measure reports on ride quality with our partners, as well as innovative ideas on new technology related to asphalt materials, construction techniques, and equipment.

Concrete Industry partners - The Concrete Partnering group has continued conducting its quarterly meetings. A list of action items from partnering meetings and their corresponding status were updated and sent to all committee members on a monthly basis. This has served as a reminder and helped to improve the timely completion of action items, which help sustain our good working relationship.

Aggregate Task Force - Meetings of this groups were scheduled on a quarterly basis. Participants from the aggregate industry, designers and contractors attended these meetings. To improve our partnership, we formed a subtask force to resolve and address the action plan related to aggregate, and to share the research and lessons learned with the aggregate producers. The group has also been communicating with neighboring states to form a regional aggregate bulletin.

Improvements to Customer Service Processes

Streamlining the Issuance of Truck Permits

SHA's Motor Carrier Division (MCD) has been very proactive and innovative in finding ways to streamline the permitting process for truckers and retain high standard of safety. Several examples are as follows:

- Implemented an automated hauling permit system that provides a same day turn around on permit applications not needing an engineering review, which results in the successful processing of more than 500 permits per day. The system provides a credit card payment option, eliminating cumbersome processing.
- Worked with Volvo to allow them to test new trucks on the highway in a manner that could be in compliance with the law. Originally passed in 1977, no record of a permit process could be located to assist Volvo when law enforcement questioned their operation of test vehicles. MCD collaborated with Volvo and created a new truck-testing permit process so Volvo could be in compliance. In addition, SHA worked with Volvo to expand the truck test permit to include an overweight load test vehicle. By combining the processes for both the truck testing and hauling permits, a process was created that allowed for test vehicles with heavier-than-normal loads while ensuring that all aspects of the hauling permit safeguards were incorporated into the permit.
- Worked with the towing industry regarding the issue that newer tow trucks, known as rotator cranes, being placed into operation are heavier and technically overweight by design. Since these tow trucks respond to the largest of crashes on the highway, it was imperative to create a permit process that met the needs of the towing industry while complying with the provisions of law and regulation for the operation of tow trucks in Maryland.

Customer-Focused Highway Access Permit Process

In order to enhance the access permit application process three teams including Customer Service, Permit/Traffic Impact Study Process and Coordination with Local Governments and other State Agencies were organized to develop recommendations that would improve the communication, coordination and processes associated with acquiring an access permit from SHA. Many opportunities for improvement were identified to be implemented including outreach to local jurisdictions and homebuilders, organizational changes within SHA, a new tracking database that allows online tracking of requests, updating process flow charts and updating guidelines and manuals. The changes to procedures will ensure SHA is providing the best customer service possible.

CCMS

SHA launched a new CCMS version in July 2009. The new system provides dashboards, reporting capabilities, email notifications and allows for data analysis, tracking and performance measurement. CCMS system enhancements continued to be released in order to continuously improve the system. The following system enhancement versions were released in FY 2010:

- Improved the process for sending initial responses;
- Implemented a 24/7 online service request form located on SHA's webpage so that customers can submit service request tickets, check on the status of a request or modify a request.;
- Topic and sub-topic selections were streamlined to help customers easily identify the concern when submitting an online service request ticket;
- Improved the list of task names and process for identifying tasks associated with requests;
- Improved the automated routing process and added an automated process to forward customer concerns reported to SHA that belong to a department of another public agency;
- Developed narrated online CCMS training courses that provide an overview of expectations, performance measures and easy "step-by-step" directions. The online training courses are a more cost-effective training alternative, saving SHA the normal training expenses such as facility accommodations and travel. Individuals required to take the training course could do so from their desk at their convenience;
- More than 15 onsite training sessions were conducted;
- "Cheat Sheets" providing simple instructions were released as an additional CCMS assistance tool aimed to help users quickly move through the system;
- SHA, StateStat and individual Responsibility Center dashboard pages and reports were created to simplify reports of performance measures.

2010

MARYLAND STATE HIGHWAY ADMINISTRATION

ANNUAL REPORT

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